

MINES AND MILLS OF THE COMSTOCK REGION WESTERN NEVADA

BY MARY B. ANSARI

CAMP NEVADA MONOGRAPH NO. 8

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Chapter 4

VIRGINIA CITY'S MILLS

Most of the Comstock's ore reduction was done to the south of Virginia City in Gold Canyon and along the Carson River from Empire to below Dayton. Even though Virginia City was more of a mining than milling center, several very large mills, such as the California, Consolidated Virginia, and Nevada mills, were located in the area. Virginia City's mills are discussed from the north around the Cedar Hill area to the "Divide".

Cedar Hill Mill: Quartz mill which was situated at the mouth of Cedar Ravine in the early 1860s. It was reported to have cost about \$35,000 and to have had a 40 horsepower steam engine, 12 tubs and 8 Knox pans, and 12 stamps with a capacity of 16 tons per day (Collins, 1864-65, 45; Kelly, 1862, 111; 1863, 162).

Sacramento & Meredith Mill: Reduction mill, belonging to the Sacramento and Meredith Mine, located north of Virginia City near Cedar Hill. In the early 1870s it was reported to have 20 stamps and a capacity of 50 tons a day but was idle (Lord, 1883, pl. 3; SMR, 1871-72, 138).

Summit Mill: This mill was located at the north end of Virginia City. The 1866 *State Mineralogist's Report* described it as a steam mill using 6 cords of wood a day and having 20 stamps, 11 Wheeler pans, 1 Varney pan, and a crushing capacity of 35 tons a day. The *Territorial Enterprise* reported that the mill shut down in 1870 and was dismantled in 1872 (SMR, 1866, 149; TE, Sept 3, 3:1; 1870, Sept. 15, 3:2; 1872, June 18, 3:1).

Pony Mill: Reported in 1877 to be a four-stamp mill located in a ravine just south of the Odd Fellows Cemetery in Virginia City. Its main building measured 20 x 38 feet; it could crush six tons in 24 hours; and it was working ore from the Sierra Nevada ledge for gold only (TE, 1877, Oct. 11, 3:2).

Mexican Mill: Cyanide mill built in 1911 near the Union Shaft in Virginia City to treat ores from the Mexican and other nearby mines. It was described by Carl Stoddard as an "all-slime mill without table concentrators," which operated successfully for a number of years. It had ten 1,250-pound stamps and a capacity of 90-100 tons a day. Reinforced concrete engine mounts remain at the mill site (Comp, 1980; Sanborn Map Co., 1923, sh. 1; Stoddard, 1950, 23-24).

Central Co.'s Mill: Quartz mill erected in 1860 by the Central Silver Mining Co. It was situated on D, Mill, and E streets in Virginia City and included an office, assay room, storehouses, carpenter and blacksmith shops, and lodging for employees. The main building was reported to measure about 153 x 30 feet. In the early 1860s it processed the richest ores from the Central, Gould & Curry, and Savage mines. In the 1866 *State Mineralogist's Report* it was listed as being a steam mill using 8 cords of wood a day and having 13 stamps, 4 Hepburn pans, and a crushing capacity of 12 tons a day (Bancroft, 1862, map; GHN, 1865, Mar. 29, 3:1; Kelly, 1863, 157; SMR, 1866, 148).

O'Farrell Mill: Early day quartz mill located on Mill Street about 1/4 mile below Virginia City. It was earlier known as the Ogden & Wilson Mill for its original owners, Richard Ogden and J. Downs Wilson, who built the mill in 1860 for about \$40,000. Kelly's 1863 directory described it as having a main building measuring 40 x 80 feet, a 20 horsepower steam engine, 18 stamps, and a reduction capacity of 12 tons a day. The 1866 *State*

Mineralogist's Report listed it as a steam mill using 6 cords of wood a day, having 22 stamps and 12 Wheeler pans, and crushing 20 tons a day (Comstock Paper No. 16, M & SP, 1877, v. 34, Feb. 10, 81; GHN, 1864, Mar. 3, 3:1; Kelly, 1863, 158; SMR, 1866, 148).

Nevada Mill: In 1863 this quartz mill was reported to be located on 20 acres on Mill Street below the O'Farrell Mill, to have cost over \$100,000, to have 16 stamps and 37 Wakelee pans, and to crush 30 tons of rock in 24 hours. At that time it was owned by the Empire Mining Co. of Gold Hill and was known as the Empire Mill. In 1867 it was described as having 21 stamps and a 40-ton-a-day capacity and running on Chollar-Potosi ore. By that time its name had been changed to Nevada Mill. A 1954 *Nevada State Journal* article reported that in the late 1860s it and the Lands Mill were foremost among Comstock milling companies. In the 1871-72 *State Mineralogist's Report* it was listed as having 20 stamps, a 50-ton-a-day capacity and was operating on ore from the Chollar-Potosi Mine (Bancroft, 1862, map; Kelly, 1863, 158-59; Nevada State Journal, 1954, Nov. 14, 6:2; SMR, 1871-72, 138; TE, 1867, Mar. 13, 3:1).

Kinthead Mill: Reduction mill erected in the late 1890s at the head of Sixmile Canyon in Virginia City. It was named for James H. Kinthead, whose Kinthead process was used by the mill. The mill operated on the principle of a giant pestle and mortar. In 1907 the mill was treating 35-40 tons per day of ore from Tonopah, Nevada. The mill also operated on low-grade ores and old dump materials from the Consolidated Virginia and Ophir mines. Debris and concrete pilings remain (Comp, 1980; Engineering & Mining Journal, 1907, v. 83, Feb. 9, 269-70, photo; Nevada State Journal, 1953, July 12, 6:3).

Consolidated Virginia Mill: Large reduction mill, owned by the Bonanza Firm-controlled Pacific Mill & Mining Co., which was located near the Virginia & Truckee Railroad yard in Virginia City. It cost \$300,000; had 60 stamps, 40 pans, 20 settlers, and 4 agitators; and could process 250-260 tons of ore a day. It was destroyed by the Virginia City fire of 1875 and was rebuilt for approximately \$350,000 (Lord, 1883, 348-49; Smith, 1943, 159; Texas Tech University, 1980, no. 32548).

California Mill: This large reduction mill was built in the mid-1870s by the Bonanza Firm-controlled Pacific Mill & Mining Co. at a cost of over \$500,000 to process the "Bonanza" ores from the Consolidated Virginia and California mines. It stood about 100 yards east of the C & C Shaft in Virginia City. Eliot Lord described it as having 80 stamps, 46 pans, 20 settlers, and 4 agitators, with a capacity of reducing 380 tons per day. It was also known as the California Pan Mill and the California Stamp Mill. The mill was reported to be operating as late as 1887 (Comp, 1980; Lord, 1883, 349; Smith, 1943, photo, p. 160; TE, 1876, May 28, 3:2; 1876, Aug. 27, 3:2).

Gould & Carvills Mill: Quartz mill built in 1861 on the corner of Howard Street and Spanish Ravine in Virginia City. Kelly's 1863 directory reported it to possess 10 stamps and 6 Wheeler pans, to employ 9 men, and to reduce 12 tons of ore per day (Kelly, 1863, 156).

Spanish Mill: Was built in the early 1860s by the Mexican Mining Co. below its mine's tunnel in northeast Virginia City. Kelly's 1862 directory described it as having cost about \$70,000, to have a main building measuring 38 x 88 feet, and to have 16 stamps with a 10-15 ton-a-day capacity. It was also referred to as the Mexican Mill (Bancroft, 1862, map; Kelly, 1862, 109).

Manhattan Mill: In 1869 the *Territorial Enterprise* reported that the old Manhattan Mill from the Carson River near Dayton had been moved to east Virginia City; it was owned by William Sharon's Union Mill & Mining Co. (TE, 1869, Mar. 31, 3:4).

Chapter 8

GOLD HILL AREA MILLS

Gold Hill's reputation as a milling center was eclipsed only by that of its famous mines. The town of Gold Hill and the canyon below were literally lined with stamp mills. Among the area's early day largest mills were the Atlas; Empire; Imperial; Pacific; Petaluma; Piute; Rhode Island; and Stewart, Kirkpatrick & Co.'s, all located in Gold Canyon below Gold Hill. The extensive Sutro Tunnel Coalition Mill, better known as the Crown Point Mill, was built in Gold Hill in the 1930s. Gold Hill's mills are described first, followed by a discussion of the mills located in Gold Canyon between Gold Hill and the Silver City District.

Eclipse Mill: Reduction facility, owned by the Eclipse Mill & Mining Co., which was built in upper Gold Hill in 1860. In 1865 the *Gold Hill News* reported that it had a 50 horsepower engine; used 4 cords of wood a day; had 15 stamps, 8 Hepburn pans, and a 20-ton-a-day capacity; and employed 10 men. In 1866 its capacity was reported to be 25 tons a day (Collins, 1864-65, 249; GHN, 1865, June 27, 3:2; Kelly, 1862, 173; SMR, 1866, 148).

Derricks Mill: In 1860 this mill was reported to have been transported over the Sierras to the Comstock from Oregon Gulch in Butte County, California where it was known as the White & Nutter Mill. In Kelly's 1862 directory it was described as an 8-stamp mill with a 16 ton-a-day capacity located near Gold Hill. The mill was named for F. Derrick, who was superintendent and one of the owners of the mill. It was also known as the Clark & Derrick Mill (Kelly, 1862, 173; 1863, 309; TE, 1861, July 20, 2:4).

Thistle Mill: "Sandy" and "Eilley" Bowers built this mill in Gold Hill in the early 1860s to process ore from their rich mining claim in Crown Point Ravine. Kelly's 1863 directory reported that its main building measured 44 x 183 feet. In 1865 the *Gold Hill News* described the mill to be a 20-stamp mill with a 65 horsepower steam engine using 5 1/2 cords of wood a day; it had 30 Knox pans in the amalgamating department, a capacity of 22 tons per day, and 14 employees. Mrs. Bowers was born in Scotland and is reported to have given the mill its Scotch name; it was also known as the Bowers Mill (for more information on the Bowers, see the entry on the Bowers Mine in Chapter 7). The mill was badly damaged by a flood in 1868 and was destroyed by fire in 1869 (Bancroft, 1862, map; GHN, 1865, June 27, 3:2; Kelly, 1863, 310-11; TE, 1869, June 18, 3:1; Virginia City Times, 1958, vol. 1, no. 1,4).

Sutro Tunnel Coalition Mill: Large mill built in the mid-1930s by the Sutro Tunnel Coalition Co. to treat Crown Point Mine ore that lay beneath and next to the landmark Virginia & Truckee Railroad trestle in Gold Hill (in order to access the ore, it was necessary to reroute the railroad and dismantle the famous trestle). The mill is located south of the Gold Hill Hotel in Gold Hill. The all-slime cyanide plant was built with funds from the first mining loan granted by the Reconstruction Finance Corp. The mill had a 90 percent recovery rate, and in the first three years milled approximately 115,000 tons for a recovery of about \$708,000. In this three-year period the RFC loan was completely paid off. Through the early 1940s an estimated 325,000 tons were milled for a recovery of approximately \$2,000,000. The mill is locally known as the Crown Point Mill. Its several buildings remain intact, and it has been operated as a tourist mill (Stoddard, 1950, 36-38).

Crown Point Mill: Crown Point Gold & Silver Mining Co. mill was built in 1861 at the mouth of Crown Point Ravine. Kelly's 1862 directory reported it to have a main building measuring 70 x 140 feet. In 1865 the *Gold Hill News* described it as an 8-stamp mill with a

35 horsepower steam engine using 3 1/2 cords of wood per day; it had 14 pans in the amalgamating department, a capacity of 8 1/2 tons a day, and 8 employees (Bancroft, 1862, map; GHN, 1865, June 27, 3:2; Kelly, 1862, 72; SMR, 1866, 148).

Sunderland Mill: In the early 1870s this 10-stamp mill had a capacity of 15 tons a day and was milling ore from the Belcher Mine. It was located on the east side of Main Street in Gold Hill immediately south of the Crown Point Mine. According to Myron Angel, in 1875 it was owned by the Union Mill & Mining Co., of which William Sharon was president (Angel, 1881, 594; Sanborn-Perris Map Co., 1877, sh. 11; SMR, 1871-72, 138).

Granite Mill: In 1863 the *Gold Hill News* wrote that this was the only mill in Nevada Territory built of granite and considered to be fireproof. It was erected in 1861 in Gold Hill. In 1862 Kelly's directory reported that its main building measured 43 x 86 feet and that it possessed 20 stamps which could crush 25 tons per day. In 1865 the *Gold Hill News* described it as having a 45 horsepower steam engine using 4 1/2 cords of wood per day, 16 stamps, 8 Wheeler pans, a 28-ton-per-day capacity, and 10 employees. In 1867 it was refurbished, and in 1870 its machinery was moved to White Pine County, Nevada (GHN, 1863, Dec. 17, 3:1; 1865, June 27, 3:2; Kelly, 1862, 172; SCR, Locations, 1863, v.A, 171, sketch map; TE, 1867, Jan. 12, 3:1; 1870, Feb. 19, 3:2).

Comet Mill: West Gold Hill reduction facility reported in 1865 to have a 45 horsepower steam engine using 5 cords of wood per day, 16 stamps, 32 Brevoort pans, a 20-ton-per-day capacity, and 11 employees. The 1866 *State Mineralogist's Report* listed the same number of stamps and capacity. The mill was dismantled in 1868 (GHN, 1865, June 27, 3:2; SMR, 1866, 148; TE, 1868, Oct. 7, 3:1).

Gold Hill Mill: The Gold Hill Mining Co. built this mill in Gold Hill in 1861. Its main building measured about 35 x 74 feet. In 1865 it was reported to be a 14-stamp mill with a 36 horsepower engine using 3 cords of wood a day, 24 amalgamators, an 18-ton-a-day capacity, and 13 employees. In the early 1870s it had only 8 stamps and was reported to be inactive because of lack of wood. It was dismantled in 1875 (Bancroft, 1862, map; GHN, 1865, June 27, 3:2; Kelly, 1862, 171; SMR, 1871-72, 138; TE, 1875, Apr. 9, 3:1).

Coover & Stevenson Mill: This mill had the distinction of being one of the first steam mills to be erected on the Comstock. It was located on Main Street in lower Gold Hill and was reported to have started operations in August 1860. Some accounts list it as being the first steam mill on the Comstock, but it appears to have opened on the same day as Almarin B. Paul's Pioneer Mill near Devils Gate in the Silver City District. Originally the facility was known as the Coover & Harris Mill for its proprietors, Charles S. Coover and Dr. E.B. Harris. At that time it processed ore from the Bowers and Plato mines and had 8 stamps with a capacity of 6 tons per day. Later the mill was sold to C.C. Stevenson. In 1865 the *Gold Hill News* wrote that it was located below the Gold Hill Mill and had a 12 horsepower engine using 2 1/4 cords of wood per day, 8 stamps, 12 pans, a capacity of 6 tons per day, and 6 employees. In 1866 its capacity was reported to have increased to 10 tons per day. When the facility stood in the way of widening Main Street, it was torn down, and the machinery was moved to eastern Nevada. It was sometimes referred to as the Pioneer Mill (Angel, 1881, 68; Bancroft, 1862, map; Comstock Paper No. 15, M & SP, 1877, v. 34, Feb. 3, 73; GHN, 1865, June 27, 3:2; Kelly, 1862, 170; SMR, 1866, 148).

Overman Mill: The sheet-metal exterior of this 500-ton-a-day cyanide plant, which operated in the late 1930s and early 1940s, stands on the east side of what was in the early 1980s the Houston International Minerals Corp.'s access road between Gold Hill and American Flat. The mill was built and operated by the Consolidated Chollar, Gould & Savage Mining Co. (Stoddard, 1950, 38-39).

Union Mill: This quartz mill was erected in 1861 in lower Gold Hill. In Kelly's 1862 directory it was reported to be owned by the Crown Point Mining Co. and to have a main building measuring 20 x 40 feet, 8 stamps, and a crushing capacity of 10 tons a day. The 1866 *State Mineralogist's Report* listed it as a steam mill using 2 1/2 cords of wood a day and having 14 stamps, 14 pans, and a 14-ton-a-day capacity (Kelly, 1862, 172; SMR, 1866, 149).

Stewart, Kirkpatrick & Co.'s Mill: Sizeable stamp mill built in the early 1860s in Gold Canyon about 1/2 mile below Gold Hill. In Kelly's 1863 directory it was described as having a main building measuring 50 x 120 feet, about 18 stamps, and a reduction capacity of 25 tons a day. Kelly wrote that "as a matter of locality, convenience, and desirability, this establishment is unsurpassed by any mill in the Territory, and but few exceed it in capacity." In an 1864-65 directory, Collins described it as one of the largest mills in the territory. William M. Stewart, famous Comstock mining lawyer later to become United States Senator from Nevada, was one of the owners of this mill (Bancroft, 1862, map; Collins, 1864-65, 250; Kelly, 1863, 312; TE, 1863, Jan. 10, 1:7).

Imperial Mill: Lower Gold Hill milling facility erected in 1860 at a cost of almost \$200,000. It was originally known as the Washoe Gold & Silver Mining Co.'s Mill; later it was owned by the Imperial Mining Co. It appears to be the same mill as described by Kelly in 1863 as the Nevada Mill. In 1864 the *Gold Hill News* described it as one of the largest in the Territory with a main structure measuring 75 x 130 feet. At about the same time Collins wrote that it was "classed among the finest in the District." In 1865 it was reported to have a 45 horsepower engine consuming 6 1/2 cords of wood a day, 44 stamps, 74 pans, a 30-ton-a-day capacity, and 20 employees (Bancroft, 1862, map; Collins, 1864-65, 248; GHN, 1864, Jan. 5, 3:1, 1865, June 27, 3:2; Kelly, 1862, 171; 1863, 310; SMR, 1866, 148).

Rhode Island Mill: Important reduction facility whose ruins are marked by an historical marker on the east side of Nevada State Route 342 in lower Gold Hill. It was built in 1862, had a main building measuring about 53 x 100 feet, and was described in Kelly's 1863 directory as being one of the most substantial mills in the Nevada Territory. In the 1866 *State Mineralogist's Report* it was described as a steam mill running on 8 cords of wood per day and having 25 stamps, 13 Knox pans, 8 Hepburn pans, and a capacity of 40 tons a day. In the early 1870s it was reported to be running on ore from the Crown Point Mine and had 25 stamps with a 50-ton-per-day capacity. The mill was reported to still be in operation in the 1880s. Some foundations remain at the site (Comp, 1980; Kelly, 1863, 311; SMR, 1866, 148; 1871-72, 138; SCR, Locations, 1865, v.A, 380-81, sketch map).

Empire Mill: This large reduction facility was located below Gold Hill between the Rhode Island and Piute mills. It was owned by the Empire Mining Co. and was erected in 1861. In 1864 the *Gold Hill News* described it as having a 60 horsepower engine using 5 cords of wood a day, 16 common stamps and 2 very large stamps, 50 pans, and a capacity of 135 tons per week. Collins described it as "one of the most extensive Quartz Mills in Gold Hill." In the 1866 *State Mineralogist's Report* it was listed as having 16 stamps and a capacity of 32 tons per day (Collins, 1864-65, 248; GHN, 1864, Jan. 6, 3:1; SMR, 1866, 148).

Sapphire Mill: Milling facility erected in the early 1860s about 1/4 mile below Gold Hill. It was earlier known as J.B. Gagnon & Co.'s Mill and in 1864 was reported by the *Gold Hills News* to be one of the best mills in Gold Canyon. Kelly's 1863 directory listed its main building to measure 58 x 61 feet. In 1865 it was described by the *Gold Hill News* as having a 40 horsepower engine running on 4 cords of wood a day, 16 stamps, 40 pans, a capacity of

20 tons, and 12 employees. In the early 1870s it was listed as having 15 stamps and a 40-ton-a-day capacity and running on ore from the Crown Point Mine. It was reported to still be operating in the early 1880s (Comp, 1980; GHN, 1864, Apr. 5, 3:1; 1865, June 27, 3:2; Kelly, 1862, 173; 1863, 311; Lord, 1883, pl. 3; SMR, 1871-72, 138).

Petaluma Mill: Sizeable mill constructed in 1862 in Gold Canyon west of Twin Peaks. It stood adjacent to the Sapphire Mill. In 1865 the *Gold Hill News* described it as having a 20 horsepower steam engine using 2 3/8 cords of wood per day, 8 stamps, 18 pans, a 12-ton-a-day capacity, and 8 employees. In the 1866 *State Mineralogist's Report* it was reported to have expanded to 16 stamps and a capacity of 26 tons per day. In the early 1870s it was milling ore from the Crown Point Mine and had 24 stamps with a 75-ton-per-day capacity. It was reported to have shut down in the mid-1870s. Some sources indicate that it was dismantled and moved to Bodie, California in 1880 whereas other sources report that the mill remained on the Comstock and operated during the 1880s (Comp, 1980; GHN, 1865, June 27, 3:2; Kelly, 1863, 311; Lord, 1883, pl. 3; SMR, 1866, 148; 1871-72, 138).

Gerard, Fourcherie & Co. Mill: This mill received a lot of publicity because it was constructed on a different principle from any mill in the state. It was erected in 1865 near the Sapphire Mill. No stamps were used, but instead it employed a crusher capable of grinding rocks the size they were when taken from the mine. It was heralded as being much less expensive to operate than stamp mills of the same capacity. In fact, it was supposed to be so efficient that only seven men were required to process 40 tons a day. The mill was housed in a three story building. No further mention of the mill was found after 1865 (GHN, 1865, Aug. 19, 3:2; 1865, Oct. 4, 2:4).

Douglas Mill: Originally known as the Centerville Mill, this mill was built in the early 1860s about 1/2 mile below Gold Hill. In 1862 its main building was reported to measure 52 x 60 feet. The *Gold Hill News* in 1865 described it as having a 24 horsepower engine using 4 cords of wood per day, 10 stamps, 24 pans, a 15-ton-a-day capacity, and 10 employees. In the early 1870s it was listed as having 15 stamps and a capacity of 30 tons a day. At that time it was running on ore from the Empire and Gold Hill mines. The mill may have been operating as late as the late 1880s. Stone foundations remain (Bancroft, 1862, map; Comp, 1980; GHN, 1865, June 27, 3:2; Kelly, 1862, 172; SMR, 1871-72, 138).

Atlas Mill: Sizeable reduction establishment which was located due southeast of the Caledonia New Hoisting Works at a point approximately 3/4 mile below Gold Hill. In 1865 it was reported to be a 15-stamp mill owned by Seale and Anderson possessing a 45 horsepower engine running on 5 cords of wood per day, 8 amalgamating pans, 11 employees, and a capacity of 26 tons in 24 hours. In the early 1870s it had 15 stamps, could crush 45 tons a day, and was milling ore from the Savage Mine. It appears that this mill was earlier known as the Seales & Anderson Mill, which was a 5-stamp mill built in 1862 (Collins, 1864-65, 247; GHN, 1864, Sept. 30, 3:2; 1865, June 27, 3:2; SMR, 1866, 148; 1871-72, 138; SCR, Mining Locations, 1876, v.B, 493, sketch map).

Piute Mill: Twenty-stamp mill built in 1864 approximately 3/4 mile below Gold Hill to process ore from the Piute claim in Gold Hill. In 1865 it had an 80 horsepower steam engine running on 5 cords of wood a day, 10 Hepburn pans for amalgamation, a 30-ton-a-day capacity, and 11 employees. In the early 1870s its capacity was reported to be 50 tons a day, but it was not operating (GHN, 1864, Sept. 30, 3:2; 1865, June 27, 3:3; Parkinson, 1874, map; SMR, 1871-72, 138).

Papoose Mill: Small quartz mill located adjacent to the Piute Mill in Gold Canyon below Gold Hill. In the 1871-72 *State Mineralogist's Report* it was listed as a 5-stamp mill with a 14-ton-a-day capacity (Parkinson, 1874, map; SMR, 1871-72, 138).

Marysville Mill: Was built in 1861 about 3/4 mile below Gold Hill. According to Kelly's 1862 directory, its main building measured 55 x 70 feet, and it had 18 stamps with a 36-ton-per-day capacity. In 1865 it was described as having 9 stamps, 30 pans, a 35 horsepower engine consuming 4 cords of wood a day, a capacity of 20 tons a day, and 12 employees. The 1866 *State Mineralogist's Report* lists its capacity as 18 tons per day (Collins, 1864-65, 249; Kelly, 1862, 171; GHN, 1865, June 27, 3:2; SMR, 1866, 148).

Pacific Mill: Large milling establishment located in Gold Canyon approximately 3/4 mile northwest of Devils Gate, which was built in 1864 by Land, Skae, & Co. In 1865 the *Gold Hill News* reported its main building to measure 72 x 100 feet. At that time it had a 120 horsepower engine consuming 9 cords of wood per day, 30 stamps, 15 Wheeler pans, a 50-ton-per-day capacity, and 20 employees, making it the largest mill in the district. In the early 1870s it was milling Belcher Mine ore and was listed as having 30 stamps with a capacity of 70 tons a day. According to Myron Angel, in 1875 the mill was owned by the Union Mill & Mining Co., of which William Sharon was president (Angel, 1881, 594; GHN, 1865, Jan. 12, 3:1; 1865, June 27, 3:3; Lord, 1883, pl. 3; SMR, 1871-72, 138).

Bancroft's 1862 map showed the McClellan and Staples mills as being located in Gold Hill. No other information was found on these mills. Among some of the smaller mills located in Gold Canyon below Gold Hill were the Greeley & Co., the Ione, and the Pony mills. In 1873 the *Territorial Enterprise* reported the Greeley & Co. Mill to be a new tailings mill situated in lower Gold Hill. At that time it had one pan and processed 36 tons of tailings a day. First mention of the Ione Mill was found in the *Territorial Enterprise* in 1869 when the facility was reported to be located in lower Gold Hill and to have been purchased by the owners of the Twin Mine to process ore from that mine. In the 1871-72 *State Mineralogist's Report* it was listed as a 5-stamp mill running on ore from the Crown Point Mine and having a capacity of 15 tons a day. In 1875 the *Territorial Enterprise* described the Pony Mill as located in lower Gold Hill and having a capacity of 3 tons in 24 hours. The article went on to say that the facility was a place where the small operator could get ore speedily and honestly processed (TE, 1869, Mar. 2, 3:2; 1873, June 8, 3:2; 1875, Mar. 14, 3:1).

Berry Glory Hole: Post Comstock-era mining operation located on the north side of Sixmile Canyon approximately one mile east of Flowery Peak. The mine was discovered in 1918 by two brothers, William and Tom Berry. In the 1920s the mine had a production of approximately 250,000 tons, yielding about \$945,000 for an average of about \$3.75 per ton. It was reported to be a true glory hole and is also known as the Flowery Mine (Bonham & Papke, 1969, pl. 2; Stoddard, 1950, 49).

North Bonanza Mine: Was located in the Flowery District about 1 6/10 miles east of Flowery Peak. The claim was located in the early 1860s, but its most profitable years were 1878-1880, after which the main ore body pinched out (WPA, 1941, no. 36, 1).

Two recent operations reported in the canyon were the Sixmile Mine and the Flowery Property. The **Sixmile Mine** was listed in 1976 as an active gold mine operated by Trans Globe Minerals Inc.; its exact location was not given. Also reported as active in the mid-1970s was the Deterra Mines Co.'s **Flowery Property**, which was listed as a gold and silver leaching operation in the eastern Flowery District (Directory of Nevada Mine Operations Active During Calendar Year 1976, 51; Payne & Papke, 1977, map).

The Mills of Sixmile Canyon

Sixmile Canyon was noted more for its mills than its mines. Its mills will be treated in the approximate order of their location from the top of the canyon on the canyon's mouth. Some of the mills at the upper reaches of the canyon, such as the O'Farrell, Nevada, and Kinhead mills, were in or so close to Virginia City that they were covered with the Virginia City mills. The Gould & Curry and Omega mills, both of which were located at the intersection of Sevenmile and Sixmile canyons, were treated in Chapter 2.

Parke & Bowie Mills: Several mills at various times around the 1870s operated under this name in Sixmile Canyon. The Parke & Bowie mills were among the first tailings mills on the Comstock. Until the advent of the tailings mills, it is estimated that close to \$20,000,000 in tailings had been lost down the Carson River from the Carson River and Gold Canyon mills. As early as 1867 the Janin & Parke Mill was operating as a tailings mill about 1/2 mile below the Gould & Curry Mill. It was reported by the *Territorial Enterprise*

"... to be the finest running little mill in the state." It was named for its proprietors Henry and Louis Janin and Ira S. Parke.

One of the Parke & Bowie mills was reported to be located approximately 1/8 mile below the intersection of Sixmile and Sevenmile canyons. The Express Mill, located about 1/8 mile southeast of Sugarloaf, was also a Parke & Bowie mill. The Gould & Curry Mill, covered in Chapter 2, was sold to Parke and Bowie in 1871 and was abandoned shortly after. In November 1871 the *Territorial Enterprise* reported that Parke & Bowie had control of nearly all of Sixmile Canyon and that besides the tailings reservoirs they already owned, they were constructing a new reservoir below Sugarloaf which would hold 250,000 tons of tailings. The article went on to say that "their mill is the most perfect of its kind in the state, and they have reduced the workings of tailings to a science." In 1872 feeders for the mills were reported to be the old Savage works at Empire and the Nevada, Bassett, Lands, and Winfield mills. In addition, tailings were being transported from the Mexican Mill on the Carson River by railroad to Virginia City and then hauled down the canyon road to the mills. An 1872 *Territorial Enterprise* article on the Parke & Bowie mills stated that "when the millmen of the present day think of the thousands of rich tailings that floated away down the Carson River in the early days, they are almost ready to tear their hair. There are doubtless millions in gold and silver in the bed of the river and in the sink, into which the river empties ..."

The Parke & Bowie Co. filed for bankruptcy in December 1873. Apparently the bankruptcy did not completely end their milling activities in the canyon because in 1876 the *Territorial Enterprise* listed the Railroad Mill as belonging to the Parke brothers. Ira S. Parke and David Bowie were the owners of these mills. One of the mills was reported still to be operating in the mid-1880s. In the mid-1870s the Express and Railroad mills were owned by the Union Mill & Mining Co., which was controlled by William Sharon. Alternate names for the Parke & Bowie mills include Parkes Mill, Bowie Mill, Janin and Parke Mill, Express Mill, and Railroad Mill (Angel, 1881, 594; Comp, 1980; Lord, 1883, pl. 3; Moran, 1923, map; SMR, 1871-72, 138; TE, 1871, Nov. 11; 3:2; 1871, Nov. 14, 3:1; 1872, Mar. 21, 3:2; 1876, Mar. 21, 3:1; 1878, June 10, 3:2).

Utah Mill: Listed in the Collin's 1864-65 directory as located in Sixmile Canyon north of Silver Hill. It was erected in 1864, its main building measured about 60 x 106 feet, and it had a 90 horsepower engine (Collins, 1864-65, 46).

Butters Mill: Large cyanide plant which was situated in Sixmile Canyon at the foot of Sugarloaf. It was erected in 1902 and operated until the late 1920s. At the time it was the largest cyanide mill in the United States, treating about 100 tons per day and employing approximately 300 persons. Originally it operated as a tailings mill, but later it processed ore from Tonopah, Nevada and local near-surface ore. The mill had the distinction of being the most elaborate of the cyanide tailings mills on the Comstock. It was named for its proprietor, Charles Butters. Extensive foundations remain (Comp, 1980; M & SP, 1907, v. 83, Feb. 9, 269-73; Sanborn Map Co., 1907, sh. 1; Smith, 1943, 258).

De Lands Mill: Reduction establishment which was located about midway down Sixmile Canyon. It is reported to have had 15 stamps and a 35-ton-a-day capacity and to be named for its owner. In the 1871-72 *State Mineralogist's Report* it was listed as being idle (Comstock Paper No. 10, M & SP, 1876, v. 33, Dec. 2, 361; SMR, 1871-72, 138; SCR, Locations, 1870, v.A, 455, sketch map).

Empire State Mill: Early mill situated in Sixmile at the foot of Sugarloaf. In Kelly's 1862 directory it was reported to possess 10 stamps and crush 12 tons a day. In Collin's 1864-65 directory it was described as running on both steam and water; having a 40-foot water wheel, a 15 horsepower engine, 10 stamps, and a 12-ton capacity; using Knox pans with false bottoms and Wakelee's patent flue pans; and employing 10 men. The 1866 *State Mineralogist's Report* listed it as a steam mill using 5 cords of wood a day and having 15 stamps; 20 Knox, 2 Wheeler, and 2 Hepburn pans in the amalgamating department; and a capacity of 15 tons a day. In the early 1870s it was reported to have 15 stamps and a capacity of 40 tons a day but was idle. Operations were resumed later in the 1870s and continued into the 1880s. Rubble walls remain (Collins, 1864-65, 42; Comp, 1980; Kelly, 1862, 113; 1863, 163; Lord, 1883, pl. 3; SMR, 1866, 148; 1871-72, 138).

Sugarloaf Mill: Early day quartz mill reported in Kelly's 1862 directory to have 4 stamps and to be located in Sixmile Canyon near Sugarloaf. Kelly's 1863 directory described it as being run by water on an overshot wheel generating about 20 horsepower, having 4 stamps and 2 arastras, and milling ore from the St. Johns claim (Bancroft, 1862, map; Kelly, 1862, 113; 1863, 163).

Flowery Mill: Reduction establishment which was located about three miles east of Virginia City. In Kelly's 1863 directory it was described as having a 40 horsepower engine, 8 stamps, a 12-ton-a-day capacity, and 20 employees. In 1869 it was reported to be operating again after repairs (Kelly, 1863, 164; TE, 1869, Mar. 20, 3:2).

Lady Bryan Mill: Reduction facility which was located in Sixmile Canyon above the Lady Bryan Mine. In the early 1870s it was reported to have 10 stamps and to be idle. In the early 1880s the mill was moved to the Rock Point Mill site on the Carson River near Dayton (Comp, 1980; SMR, 1871-72, 138).

Olive Branch Mill: Kelly's 1863 directory reported this to be the largest quartz mill in the Flowery Mining District. It was built in the early 1860s in the town of Flowery and had 16 stamps, 32 Knox pans, a 24-ton-per-day capacity, 12 employees, and a main building measuring about 60 x 72 (Kelly, 1863, 164).

Jolly Giant Mill: Ore reduction plant shown on an 1876-77 map as situated in Sixmile Canyon south of the mouth of Flowery Canyon, which would place it about 1-1/2 to 2 miles northeast of Sugarloaf. No other information was found (Wheeler, 1876-77, map).

Fisher Mill: According to Stoddard, in 1906 this mill was processing ore from the Chollar and Potosi mines. It was located below Sugarloaf in the Flowery District (Stoddard, 1950, 26; Storey County Assessment Roll, 1980-81, 92).

Rogers Mill: In Kelly's 1863 directory this quartz mill was reported to be located approximately three miles east of Virginia City and to be processing ore from the Rogers claim in the Flowery District. At that time it had a 30 horsepower engine, 8 stamps, 9 wooden tubs, 1 Knox pan, and a capacity of 14 tons a day. In 1866 it was listed as a steam mill using 3-1/2 cords of wood a day and having 8 stamps with a 12 ton capacity. The mill is shown on Moran's 1923 map as located on the J. L. Rogers' property. In 1870 the *Territorial Enterprise* reported that the mill was being moved to the desert below the mouth of Sixmile Canyon to process an immense deposit of tailings (Kelly, 1863, 164; Moran, 1923, map; SMR, 1866, 148; TE, 1870, Feb. 13, 3:3).

Bassett Mill: In Kelly's 1862 directory this mill was reported to be owned by A. Bassett & Co., to be located in the Flowery District, to possess a main building measuring about 40 x 40 feet, and to have 16 stamps with a crushing capacity of 24 tons a day. It was also known as the Suncook Mill. Another Bassett or Suncook Mill was located in Sevenmile Canyon (Kelly, 1862, 113; Moran, 1923, map).

Bartola Mill: In Kelly's 1862 directory this quartz mill was listed as being located at the junction of Flowery Toll Road (now Sixmile Canyon Road) and Desert Canyon. Kelly's 1863 directory described it as a water-powered mill having 10 stamps, 36 amalgamating pans, a 10-ton-a-day capacity, and 10 employees. Variant spellings are Bertola, Bertoli, and Bartoli. There was another Bartola Mill located in Gold Canyon below Silver City (Collins, 1864-65, 316; Kelly, 1862, 114; 1863, 164).

Several other small mills dotted the canyon. Moran's 1923 map shows **Bossells Mill** located to the southeast of Sugarloaf. The same map shows **Jennings Mill** below Rogers Mill near the mouth of the canyon on property owned by George M. Jennings. The **Centennial Mill** had a brief history. A July 12, 1876 *Territorial Enterprise* article reported that it had recently gone into operation at the mouth of the canyon, that it was owned by Charles Baker & Co., and that it was doing well for a time but was beginning to suffer from the low price of silver. A month later the *Territorial Enterprise* wrote that the \$16,000-tailings mill was destroyed by fire after operating only two months and was only partially insured. The **Clark Mill** was listed for sale in 1868 as a water-powered mill with 5 stamps and 3

pans, owned by Mrs. Clark; it was destroyed by fire in 1870. Its exact location in the canyon was not given. A Davis Mill was reported to be somewhere in Sixmile in the early 1900s. The Frink Mill was listed in Kelly's 1863 directory as located about two miles below Flowery, owned by W. H. Frink, and to be water-powered with 2 arastras. In 1869 the Proctor Mill was advertised as being for sale; it was a water-powered mill. Its exact location in the canyon was not given. Kelly's 1862 directory listed Steens Mill as being located on Flowery Road (Kelly, 1862, 121, 125; 1863, 164; Moran, 1923, map; Nevada State Journal, 1953, July 12, 6:3; TE, 1868, Jan. 15, 2:6; 1869, Nov. 21, 2:6; 1870, Apr. 1, 3:1; 1876, Aug. 12, 3:3).

Hoosier State Mill: This mill stood on Silver Street between G and H streets in Virginia City. It was built in 1862, and the 1866 *State Mineralogist's Report* described it as being a steam mill using 3-1/2 cords of wood a day, having 8 stamps and 24 Knox pans, and reducing 12 tons a day. In the early 1870s it was processing ore from the Savage Mine and had 18 stamps with a capacity of 40 tons a day. It was also known as Lynchs Mill (Collins, 1864-65, 45; Kelly, 1863, 156; SMR, 1866, 148; 1871-72, 138; TE, 1870, June 24, 3:1).

New Gould & Curry Mill: Reduction mill built in 1900 in southeast Virginia City. In 1907 it was reported to be crushing 50-55 tons per day of Tonopah, Nevada ore. It was also known as the Best & Belcher Mill (Comp, 1980; Engineering & Mining Journal, 1907, v. 83, Feb, 9, 270; Sanborn Map Co., 1907, sh. 5).

Nevada Mill: Reduction mill located in southeast Virginia City on the Chollar Mine. It was built in the late 1880s and had the distinction of being the last Washoe Process mill on the Comstock and the first Comstock mill to use electric power. The mill processed low-grade Chollar ore and some Hale & Norcross ore; it was reported to have 60 stamps, 15 settling pans, 30 amalgamating pans, and 10 agitators (Shamberger, 1969, 38; Smith, 1943, 256).

S H & N Mill: Flotation mill, erected in the early 1930s by the Arizona Comstock Co., which was originally known as the Arizona Comstock Mill. It is located near the site of the Hale & Norcross tunnel in southeast Virginia City. From 1934-1938 the mill processed ore from the Loring Cut, resulting in a net recovery of about \$1,437,000 from approximately 460,000 tons. Later the mill was purchased by the Siskon Corp. and became known as the S H & N Mill (Siskon Hale & Norcross Mill). In the mid-1970s Intermountain Exploration Co. purchased and operated the mill. In 1977 Intermountain dismantled about three-quarters of the mill and moved it to Como in Lyon County, Nevada. The ore bin and part of the plant remains next to the Virginia & Truckee Railroad tracks near the New Savage Mine (Nevada Appeal, 1975, Oct. 8, A3; 1978, Mar. 1, A8:1; Stoddard, 1950, 33-35; Steve Russell, Field Geologist, Intermountain Exploration Co., 1982, personal commun.).

Winnebago Mill: Reported in 1877 to be located on the ravine north of the Ophir Mine. It was a small steam mill with only four stamps and a six-ton-a-day capacity; it had a blacksmith shop, water tank, slum pond, and wood chute (TE, 1877, Nov. 1, 3:3).

Ophir Mill: Cyanide mill built in 1912 for the Ophir Silver Mining Co. It processed tailings and had a capacity of about 100 tons per day. Its location in the Virginia City area is undetermined (M & SP, 1912, v. 105, Nov. 31, 703).

Chapter 11

MILLS OF THE SILVER CITY AREA

This discussion covers the mills located in Gold Canyon above Silver City, then those located in the town of Silver City, followed by those located in lower Gold Canyon below Silver City.

Overland Mill: In 1932 Alfred Merritt Smith wrote that "the Overland is a ten-stamp amalgamation plant built a few years ago at the Overland mine. It is powered by electricity and has operated intermittently. At present it is being used by lessees at the Overland mine." The mill was located adjacent to the Overland Mine (Smith, 1932, 25).

Ramsell Mill: Tiny mill which was located in Gold Canyon approximately 1/2 mile northwest of Devils Gate. Variant spellings include Ramsdell and Ramsdale. It was erected in 1870, and in the 1871-72 *State Mineralogist's Report* it was reported to have 2 stamps and a 5-ton-a-day capacity and to be processing ore from the Woodside Mine. It was reported to still be operating in the mid-1870s (Comp, 1980; Lord, 1883, pl. 3, SMR, 1871-72, 138).

Succor Mill: Was located near the Sccor Mine in Gold Canyon approximately 1/2 mile northwest of Devils Gate. This early mill was originally situated on the Carson River about 1 1/2 miles below Dayton. When winter flooding changed the river's channel in the early 1860s, the mill's frame was moved to Gold Canyon. In 1865 the *Gold Hill News* reported it to be a 20-stamp mill with a 50 horsepower engine consuming 5 cords of wood per day; it had 24 common pans and 2 Hepburn pans for amalgamation, a capacity of 27 tons per day, and 14 employees. In the early 1870s it was listed as having 15 stamps and a 25-ton-a-day capacity but was idle (GHN, 1865, June 27, 3:3; Kelly, 1863, 313; Lord, 1883, pl. 3; SMR, 1871-72, 138).

Hartford Mill: Cyanide mill which was located in Gold Canyon on the east side of Hartford Hill above the Lucerne Cut. It was operated by the Hartford Mining Co. and had a production of nearly \$400,000 from an estimated 72,000 tons for an average of about \$5.50 per ton for the period 1935-1940. There are extensive ruins on the site (Comp, 1980; Stoddard, 1950, 41).

St. Louis Co.'s Mill: Early day mill located approximately 1/4 mile above Devils Gate. In 1862 its main building measured 50 x 60 feet, and it had four arastras which were crushing ore from its own mine, the St. Louis Mine. In Kelly's directory it was reported to have a 20-ton-a-day capacity, and Collins reported it to have a 40 horsepower engine (Collins, 1864-65, 250; Kelly, 1862, 173-74; 1863, 313-14).

Boston Mill: Small mill that was situated approximately 1/10 mile northwest of Devils Gate. In the early 1870s it was listed as having 5 stamps and to be processing ore from the Empire and Gold Hill mines (Lord, 1883, pl. 3; SMR, 1871-72, 138).

Devils Gate Mill: Was erected in the early 1860s just below Devils Gate. In Collin's 1864-65 directory it was listed as having a 24 horsepower steam engine, 16 stamps, 24 pans, and a capacity of 20 tons in 24 hours. It was formerly known as the Washoe Mill. The *Gold Hill News* in 1865 described it as having 12 stamps and 10 pans, using 4 cords of wood a day, employing 10 men, and crushing 8 tons a day. In the 1866 *State Mineralogist's Report* it was reported to be using 5 cords of wood a day, running 8 stamps and 10 Hepburn pans, and reducing 14 tons a day. In the early 1870s it was listed as having 12 stamps and a 24-ton-a-day capacity (Collins, 1864-65, 315; GHN, 1865, June 5, 3:2; Lord, 1883, pl. 3; SMR, 1866, 149; 1871-72, 100).

McTigue Mill: This reduction establishment was built on a group of claims just below Devils Gate. Originally it was an amalgamation stamp mill having 15 stamps weighing 800 pounds each. It operated as a stamp mill for about 30 years and was converted by the Recovery Milling Co. in the 1930s to a ball and flotation mill. The mill was later leased to the Dayton Consolidated Mines Co. for flotation concentration of ore from the Keystone Mine. In 1933 the South Comstock Gold Mines Co. bought the Recovery Co.'s holding and from 1934-1940 recorded a production of about 66,000 tons, yielding approximately \$588,000. At that time it was known as the South Comstock Mill. Since then the mill has been idle. Cement pilings and scattered foundations remain (Comp, 1980; Smith, 1932, 25; Stoddard, 1950, 41-42; Gerald B. Hartley Jr., 1982, personal commun.).

Trimble Mill: This well known mill was built in 1900 in Silver City by R. A. Trimble and Nate Dunsdan. Originally it was a 5-stamp mill, but later it was increased to 13 stamps, weighing 900 pounds each. It was a simple amalgamating plant, and Smith reported that the process was never changed through the early 1930s. This was one of the district's major mills during the mining boom of the 1930s. It was located below the McTigue Mill. Some ruins remain at the site (Comp, 1980; Smith, 1932, 23-24; Gerald B. Hartley, Jr., 1982, personal commun.).

Pioneer Quartz Co.'s Mill: Shown on Bancroft's 1862 map as located near the Trench Mill in lower Silver City. Collins and Kelly place it closer to Devils Gate. In Kelly's 1863 directory it was described as having a 40 horsepower steam engine, 15 stamps, a 20-ton-a-day capacity, and to be reducing ore from its own mine in Gold Hill. In his 1864-65 directory Collins reported it to have 15 stamps, 3 Hepburn and 28 Knox pans, a main building measuring 100 feet square, and a capacity of 20 tons a day. He went on to say that "for three years it has been the most successfully worked Mill in the Territory -- not having stopped operations longer than 20 hours at any time during that period" (Collins, 1864-65, 315; Kelly, 1863, 359-60).

Pioneer Mill: This mill frequently is given credit for being the first steam mill to operate on the Comstock. It was built by Almarin B. Paul, and most accounts agree that it commenced operations on August 13, 1860. Some sources claim that the Coover & Harris Mill in Gold Hill started up a day or two sooner, whereas other reports claim that both mills started on the same hour of the same day. The Logan & Holmes Mill, a 2-stamp mill powered by horses, commenced operations near Chinatown (Dayton) in the fall of 1859. A water-powered mill, the Hastings & Woodworth Mill, also started up near Chinatown in the fall of 1859. In any event, the Pioneer Mill was either the first or second steam mill to operate on the Comstock. In Kelly's 1862 directory it was listed as the Pioneer Mill of the Washoe Gold & Silver Mining Co., No. 1. It was also known as the Washoe Mill and Paul's Pioneer Mill. Kelly's 1863 directory reported it to have a 40 horsepower steam engine, 32 stamps, and 24 pans; to crush 30 tons a day; and to employ 15 men (Bancroft, 1862, map; Kelly, 1862, 199; 1863, 359).

Confidence Mill: Reported by the *Territorial Enterprise* in 1866 to be located just below Devils Gate. The newspaper article went on to say that for some time an amalgamator had been suspected of stealing small amounts of amalgam from the mill. Consequently, he was watched and caught in the act of straining the quicksilver through his handkerchief as he poured it back into the pan, thus securing quite a bit of raw bullion, which was found in his pocket. The article ended by reporting that the amalgamator and his accomplices "are at present snugly ensconced in the Dayton Jail." No more information was found on the mill (TE, 1866, Dec. 7, 3:1).

Sherman & Co. Mill: Tiny mill which was situated in Silver City near the Hope Mill. In 1865 the *Gold Hill News* described it as being water-powered with 5 stamps and 2 pans, using one cord of wood a week, reducing 4 tons a day from the Occidental Mine, and employing 2 men. In the 1869-70 *State Mineralogist's Report* it was listed as having 5 stamps and 4 pans. Apparently the mill was moved to Bodie, California in the late 1870s (Comp, 1980; GHN, 1865, June 5, 3:1; Lord, 1883, pl. 3; SMR, 1869-70, 15).

Hope Mill: Was located in the heart of Silver City near the Sherman Mill. In the 1869-70 *State Mineralogist's Report* it was listed as having 10 stamps and 6 pans. In 1871 it was purchased by the Buckeye Mining Co. In the early 1870s it was reported to have 10 stamps and a 20-ton-a-day capacity (Lord, 1883, pl. 3; SMR, 1869-70, 15; 1871-72, 100; TE, 1871, June 14, 3:1):

Trench Mill: Built in 1860 in lower Silver City near the mouth of American Ravine, this mill was originally known as the Sparrow & Trench Mill for its owners, Erastus Sparrow and Joseph Trench, who had a mine by the same name in Gold Hill. In Kelly's 1862 directory it was reported to have cost approximately \$40,000; to have a main building measuring 50 x 80 feet plus dwellings, stables, and other out buildings; to possess a 30 horsepower engine and 12 stamps which worked both gold and silver; to reduce 12 tons a day; and to employ 16 persons. In 1865 it was listed as using 6 cords of wood a day, having 20 stamps and a 30-ton-a-day capacity, and employing 15 men. In 1869 it was purchased by John Mackay and James Fair. In the early 1870s it was listed as having 40 stamps and a 20-ton-capacity. Some early accounts mistakenly listed Trench as French, i.e. Bancroft's 1862 map (GHN, 1865, June 5, 3:1; Kelly, 1862, 200; SMR, 1871-72, 100; TE, 1869, July 13, 3:2).

Sullivan Mill: Described by the *Territorial Enterprise* as an obsolete mill adjoining the Trench Mill, which was bought by Mackay and Fair and torn down to give more room to the Trench Mill. It was reported to be built by Jerry Sullivan of San Francisco and was one of the oldest mills in the area (TE, 1869, July 13, 3:2).

Donovan Mill: Smith writes that "the first cyanide plant in Silver City was built by the late Professor R. D. Jackson, one time Dean of the University of Nevada School of Mines prior to the founding of the well-known Mackay School of Mines. In 1900 Jackson formed a partnership with Dr. J. Warne Phillips, who resigned from the chair of Physics and Chemistry at the University of Nevada to engage in mining and milling with Prof. Jackson at Silver City. A few years later Phillips bought out Jackson, and after a time sold to Wm. Donovan, Sr., father of the present owner. Dr. Phillips designed and installed the huge tailings derrick, the outstanding feature of the plant."

Apparently the Donovans operated the mill from 1912 to the 1940s. The mill's well preserved buildings stand on the east side of Silver City's main street across from the mouth of American Ravine. It was one of Silver City's major mills during the district's mining boom in the 1930s (Smith, 1932, 25-26; Stoddard, 1950, 41-42).

Pollard & Trimble Mill: Representing one of the earliest cyanide leaching plants on the Comstock, this mill was built by R. A. Trimble in 1900. In 1909 William Donovan, Sr. purchased the mill and operated it in conjunction with the Donovan Mill for many years. The mill was located below Silver City to the south of the Donovan Mill. The remains of this mill include extensive foundations and debris, several partially buried cyanide leaching vats, and a series of zinc precipitation boxes (Comp, 1980).

Burke & Co.'s Mill: Lower Silver City mill which was situated at the junction of Gold Canyon and American Ravine. It was originally known as McNulty's Mill and was reported to be one of the oldest mills in the Territory. Later it was owned by Burke, Hillyer, and Brevoort. Kelly reported that it was always a successful operation. Bancroft's 1862 map

listed it as Brevoorts Mill. It was a steam mill having 5 stamps with a 10-ton-a-day capacity (Bancroft, 1862, map; Kelly, 1863, 360).

Bacon Mill: Bacon Mill & Mining Co. mill located in lower Silver City at the intersection of Gold Canyon and American Ravine. In an 1864-65 directory it was described as having been built in 1862 and rebuilt in 1863; having 30 stamps, 34 pans, and a 45 horsepower steam engine; and reducing 20 tons in 24 hours. In 1865 it was listed in the *Gold Hill News* as having 20 stamps, 17 pans, and 15 employees; using 6 cords of wood a day; and crushing 30 tons a day from the Bacon Mine in Gold Hill. In 1868 the *Territorial Enterprise* reported it to be owned by the Bank of California, which was controlled by William Sharon, and in 1869 John Mackay and James Fair purchased the mill to process Hale & Norcross ore. In the 1871-72 *State Mineralogist's Report* it was listed as having 20 stamps and a capacity of 40 tons. Stone foundations remain (Collins, 1864-65, 316; Comp, 1980; GHN, 1865, June 5, 3:1; Lord, 1883, 305, pl. 3; SMR, 1871-72, 100; TE, 1868, Jan. 21, 1:2).

Union Mill: Reduction facility built in 1861 in American Ravine above the Bacon Mill. Kelly's 1863 directory reported it to have a 40 horsepower engine, 5 stamps, 8 wooden tubs, and one Wakelee pan; to crush 16 tons a day; and to employ 10 men. In Collin's 1864-65 directory it was listed as having 10 stamps, a 20 horsepower engine, 8 wooden tubs, and one Wakelee pan; to reduce 15 tons a day; and to employ 10 (Collins, 1864-65, 316; GHN, 1863, Dec. 24, 3:2; Kelly, 1863, 361).

Knickerbocker Mill: Small mill erected in the early 1860s in lower Silver City near American Ravine. It was a water-powered mill driven by a 32-foot water wheel and had 5 stamps and 2 pans. Collins wrote that "small though this Mill may appear in comparison with those surrounding it, yet owing to the advantage of water power and good management, it is perhaps more profitable to its owners than mills that boast greater capacities." (Collins, 1864-65, 315-16; Kelly, 1863, 360).

Kelsey Mill: Lower Silver City mill which was situated near the junction of Gold Canyon and American Ravine. In 1863 it was described as having a 40 horsepower engine, 15 stamps, and a capacity of 20 tons in 24 hours; running constantly on Gould & Curry ore; and employing 9 men. It was owned by Melville Kelsey and S. W. Collins. In 1868 it was known as the Kelsey & Lyon Mill, and in the early 1870s it was listed as having 15 stamps and a capacity of 30 tons a day. Jacksons Mill (later the Donovan Mill) was later built on the same site (Comp, 1980; Kelly, 1863, 361; Lord, 1883, pl. 3; SMR 1871-72, 100; TE, 1868, Jan. 21, 1:2).

Eastern Slope Mill: This mill was reported to be located in Silver City approximately 1/2 mile below Devils Gate. It began operating in 1861 and was owned by the Eastern Slope Mill & Mining Co. Kelly's 1863 directory showed it to have a 40 horsepower steam engine, 12 stamps, 12 employees, and a 20-ton capacity. In 1865 it was reported to be a 16-stamp, steam mill using 5 1/2 cords of wood a day, possessing 6 pans for amalgamation, employing 11 hands, and processing 20 tons a day from the Challenge Mine. In the 1866 *State Mineralogist's Report* it was listed as having the same number of stamps and pans and same capacity as in the 1865 newspaper account (Bancroft, 1862, map; Collins, 1864-65, 316-17; Kelly, 1863, 361; GHN, 1865, June 5, 3:2; SMR, 1866, 149).

Dayton Consolidated Mill: The extensive group of buildings belonging to this cyanide mill stand on a hill due west of the intersection of Nevada State Route 341 and 342 below Silver City. Large tonnages were processed here in the 1930s by the Dayton Consolidated Mines

Co. Even though from the exterior this sprawling facility appears to be intact, its interior is reported to be fairly well dismantled. The mill was closed by order of the War Production Board in 1942 and apparently operated for a short while in the late 1940s (Comp., 1980; Stoddard, 1950 41-42; Gerald B. Hartley, Jr., 1982, personal commun.).

Other early mills in the Silver City area included the "Barrel Mill," Buckeye Mill, Golden Age Mill, Horn Mill, and Silver City Quartz Mill. In 1866 the *Territorial Enterprise* reported that a "Barrel Mill" was located in Silver City between the Eastern Slope and Phoenix Mills, that it had 2 settlers and 4 barrels, and was for sale. The Buckeye Mill was described by the *Gold Hill News* in 1865, as having 10 stamps, 8 Wheeler pans, 4 settlers, and a 40 horsepower engine; it was reducing 24 tons a day and running on ore from the Savage Mine. In 1871 the Golden Age Mill was built in Silver City to process ore from the Dayton Mine; at that time it had 5 stamps and a 10-ton capacity. The 1871-72 *State Mineralogist's Report* listed the Horn Mill as being located in Silver City and having 20 stamps with a 40-ton capacity; no further information was found on this mill. Kelly's 1863 directory described the Silver City Quartz Mill as being located a little above the Trench Mill in Silver City; costing about \$35,000 and beginning operations in 1861; and having 5 stamps, a 35 horsepower steam engine, and a 10-ton-a-day capacity (GHN, 1865, May 9, 3:1; 1871, Jan. 8, 3:2; Kelly, 1863, 361; SMR, 1871-72, 100; TE, 1866, July 18, 2:4).

Phoenix Mill No. 1: Was located near the Eastern Slope Mill in Gold Canyon approximately 1/2 mile below Silver City. It was erected in 1860 and in Kelly's 1863 directory was reported to be geared more for processing of gold than silver. At that time it had 16 stamps, 8 of which were wood and 8 which were iron, and 32 Hungarian bowls; ran on steam power; reduced 20-24 tons a day; and employed 8 men. The *Gold Hill News* in 1865 described it as having 16 stamps and 6 pans; using 4 1/2 cords of wood a day, and reducing 22 tons of Crown Point ore in a day. In 1868 the mill was reported to be owned by the Bank of California, which was controlled by William Sharon (Bancroft, 1862, map; GHN, 1865, June 5, 3:1; Kelly, 1863, 362; TE, 1868, Jan. 21, 1:2).

Phoenix Mill No. 2: Reported to have been erected in 1861 near Phoenix Mill No. 1. In 1863 it was described as having a main building measuring 80 x 100 feet, a 72 horsepower steam engine, and 24 stamps with a capacity to crush 28-32 tons in 24 hours. On the premises were two stone buildings and several frame ones serving as an office, assay office, blacksmith shop, and employee residences; eighteen men were employed. In 1865 it was reported to have 20 stamps and 34 pans, to use 6 1/2 cords of wood per day, and to process 30 tons of ore a day from the Crown Point Mine. It was destroyed by fire in 1866 (Collins, 1864-65, 317; GHN, 1865, June 5, 3:2; Kelly, 1863, 362; TE, 1866, Oct. 21, 3:2).

Dodge & Merchant Mill: Early mill located in Gold Canyon below the Phoenix Mills at the junction of the Rock Point Mill and Dayton roads. Kelly's 1863 directory described it as having a 35 x 95-foot main building, a 16 horsepower steam engine, 8 stamps, a 12-ton capacity, and 14 employees. Its proprietors were E. K. Dodge and S. D. Merchant. Collins's 1864-65 directory listed it under the name of Merchants Mill and reported it to have been built in 1861 and to have 12 stamps, 8 wood amalgamators and 9 pans, a 15 horsepower engine, a 15-ton capacity, and 12 employees. In 1865 the *Gold Hill News* reported that the mill was closed (Collins, 1864-65, 318; GHN, 1865, June 5, 3:1; Kelly, 1863, 362-63).

Swansea Mill: Was situated in Gold Canyon about one mile below Silver City and below the Phoenix Mills. It was erected in 1862 and at that time had 12 stamps and a 20-ton-capacity and employed 12 men. In 1865 it was described as a steam mill using 5 cords of wood per day, having 14 stamps and 22 pans, crushing 20 tons a day from the Empire Mine, and employing 10 hands. The Bank of California acquired it in 1866, and in the early 1870s it

was listed as having 12 stamps and a capacity of 25 tons but was idle. Later the mill was known as Humphreys Mill and was moved to Bodie, California in the late 1870s (Bancroft, 1862, map; GHN, 1865, June 5, 3:1; Kelly, 1862, 201; Lord, 1883, 246, pl. 3; SMR, 1871-72, 100).

Excelsior Mill: Reported to have been built in the early 1860s about 1/4 mile below the Swansea Mill in the vicinity of Johnstown. In 1863 Kelly described it as a "first-class mill." It was reported in 1865 to be run on steam, to have 8 stamps and 12 pans, to use 3 cords of wood per day, to reduce 10 tons a day from the Yellow Jacket Mine, and to employ 9 men. In the 1871-72 *State Mineralogist's Report* it was listed as having 10 stamps and a 20-ton-a-day capacity. The mill was reported still to be operating in the early 1880s (Collins, 1864-65, 317; Comp, 1980; GHN, 1865, June 5, 3:2; Lord, 1883, pl. 3; SMR, 1871-72, 100).

Sacramento Mill: Shown on Bancroft's 1862 map as located in Gold Canyon above Johnstown and below the Excelsior Mill. Kelly's 1863 directory reported it to have a 40 horsepower engine, 18 stamps, 12 pans for working both gold and silver, and a capacity of 30 tons a day. In 1865 it was described by the *Gold Hill News* as using 4 1/2 cords of wood a day, having 12 stamps and 12 pans, crushing 18 tons of Belcher Mine ore a day, and employing 12 hands. In the early 1870s it was listed as having 12 stamps and a 25-ton capacity and as being shut down (GHN, 1865, June 5, 3:1; Kelly, 1863, 364; SMR, 1871-72, 100).

Monitor Mill: Small reduction facility located at Johnstown which was described by the *Gold Hill News* in 1865 as having 5 stamps and 5 pans, using 2 cords of wood per week, reducing 5 tons a day, and employing 4 men. It was destroyed by fire in 1870 (GHN, 1865, June 5, 3:2; TE, 1879, Apr. 12, 3:1).

Atlanta Mill: Lower Gold Canyon reduction establishment which was situated below Johnstown and below the Sacramento Mill. In the 1869-70 *State Mineralogist's Report* it was listed as having 10 stamps and 6 pans. The *Territorial Enterprise* reported in 1871 that the mill was installing 10 Parke pans for purposes of working tailings. The 1871-72 *State Mineralogist's Report* listed it as having 12 stamps and a 25-ton capacity but to be inoperative. In 1873 it was refitted to work tailings exclusively, with a capacity of 30 tons of tailings a day and apparently operated in the 1880s (Comp, 1980; Lord, 1883, pl. 3; SMR, 1869-70, 14; 1871-72, 100; TE, 1871, June 8, 3:1; 1873, Apr. 2, 3:1).

Weston & Co. Mills: Situated in lower Gold Canyon approximately 1 1/2 to 2 miles above Dayton and originally known as Van Horn & Co.'s Mill, which Kelly's 1862 directory described as a water-powered mill with 6 stamps. Kelly's 1863 directory listed it as the Weston, Whipple, and Simon Mill. There were two mills in close proximity that went by the name of Weston & Co. Mills. Weston & Co. Mill No. 1 was a water-powered mill reported in 1865 to have 10 stamps and 6 pans, to use 3 cords of wood per week, and to process 3 tons of ore a day from the Enterprise Mine. In the 1866 *State Mineralogist's Report* it was listed as having 10 stamps and 8 tubs and processing 11 tons per day. The Weston & Co. Mill No. 2 was a steam-powered mill reported in 1865 to have 15 stamps and 9 pans, to use 26 cords of wood per week, and to reduce 20 tons a day from the Enterprise Mine. In the 1866 *State Mineralogist's Report* it was listed as having 15 stamps, 9 Wheeler pans, and a 14-ton-a-day capacity (Bancroft, 1862, map; GHN, 1865, June 5, 3:2; Kelly, 1862, 202; 1863, 364; SMR, 1866, 149).

Osgood & Co.'s Mill: Lower Gold Canyon mill reported to be located at the junction of Holmes & Logan and Dayton roads. Kelly's 1862 directory reported that it had an 18 horsepower engine, 8 stamps, and a main building measuring 35 x 95 feet. It used the Bertola process, employed 12 men, and Osgood and Chapin were its proprietors. It was also

called Chapins Mill and possibly was the same as the Bartola (Bartoli, Bertola) Mill, which was reported in 1865 to have a 16 horsepower steam engine, 8 stamps, and 8 Knox pans; to use 3 cords of wood a day, to reduce 9-10 tons in 24 hours, and to employ 9 men (Bancroft, 1862, map; Collins, 1864-65, 316; GHN, 1865, June 5, 3:2; Kelly, 1862, 201; SMR, 1866, 149).

The following are additional early mills that were located in lower Gold Canyon below Silver City. Plate 3 of the Lord report shows **Henchs Mill** as located in Gold Canyon approximately 1/4 mile below Silver City. Bancroft's 1862 map shows **Brooks Mill** to be situated below Silver City near the Eastern Slope Mill and the **Gold Canyon Reduction Works** to be located between Brevoorts Mill (Burke & Co.'s Mill) and Brooks Mill. In 1865 the *Gold Hill News* reported the Gold Canyon Reduction Works to be a 20-stamp, steam mill with 16 pans. Kelly's 1862 directory listed **Kelloggs Mill** as having a main building measuring 40 x 64 feet, a 20 horsepower steam engine, 8 stamps, and a 15-ton capacity; it was located about 1/2 mile below Silver City. Bancroft's 1862 map shows the **McDonald Mill** in lower Gold Canyon just below Johntown and **Barrys Mill** site in lower Gold Canyon below Van Horns Mill (Weston & Co.'s Mill). Both the Golden Eagle Mill and the Metallurgical Works were reported in 1868 by the *Territorial Enterprise* to be located in lower Gold Canyon west of Dayton. In the 1866 *State Mineralogist's Report* the **Golden Eagle Mill** was listed as a 10-stamp, steam mill consuming 3 1/2 cords of wood a day and having 25 tubs and a 13-ton capacity. In the same report the **Metallurgical Works** was listed as a steam mill using 5 cords of wood a day and possessing 15 stamps, 6 Wheeler pans, and a 16-ton capacity. The 1869-70 *State Mineralogist's Report* listed the **Keystone Mill** as having 5 stamps and 6 pans; in the early 1870s it was reported to be a tailings mill in Gold Canyon. No exact location was given for this mill (Bancroft, 1862, map; GHN, 1865, June 5, 3:2; Kelly, 1862, 202; Lord, 1883, pl. 3; SMR, 1866, 149; 1869-70, 15; TE, 1868, Jan. 21, 1:2).

Daney Mill: Sizeable mill which was located south of Silver City in Spring Valley approximately 200 yards from the Daney Mine. In 1863 Kelly wrote that it "presents the appearance of quite a small town" with its numerous dwellings and other out buildings. At that time its main building measured 50 x 100 feet, and the mill had 15 stamps and a 50 horsepower engine. Only 3 employees were needed to run the mill, causing Kelly to describe it as "the most perfect labor-saving institution in the Territory." The *Gold Hill News* in 1865 reported it to have 15 stamps, to be using 6 cords of wood per day, to employ 9 men, and to be processing ore from the Savage Mine. In 1868 the mill was reported to be owned by the Bank of California, which was controlled by William Sharon, and in the early 1870s it was listed as having 15 stamps and a 30-ton capacity and to be shut down (GHN, 1865, June 5, 3:2; Kelly, 1863, 365; SMR, 1871-72, 100; TE, 1868, Jan. 21, 1:2).

Also reported as located in Spring Valley between Silver City and Dayton were the Dana and Spring Valley mills. An 1866 article in the *Territorial Enterprise* described the Dana Mill as a 1-stamp mill with one of the finest engines in the state. It had been idle about a year, and a new owner was reported to be refurbishing it with plans to soon put it into operation. The **Spring Valley Mill** was listed in the early 1870s as having 10 stamps with a 20-ton capacity (SMR, 1871-72, 100; TE, 1866, June 16, 2:2).

A proposed town by the name of Rock Island was surveyed by Ross E. Browne on November 25, 1874. It was to be located at the northwest corner of American Flat due north of the Rock Island Mine. A plat of the proposed community is on file in the Storey County Recorder's Office. Apparently the town was never established as no further mention of it can be found (GHN, 1865, Jan. 10, 3:1; Smith, 1943, 293; SCR, Mining Locations, 1875, v.B, 237).

Baltimore Consolidated Mine: Mining property located at the north end of American Flat about one mile southwest of Gold Hill. The original claim included approximately 1,200 feet on the American Flat Branch of the Comstock Lode. Work on the property commenced in 1862, and a three-compartment shaft was started in the mid-1860s. The ore bodies were small and soon exhausted; the mine closed in the late 1880s. There was no reported production, and assessments of about \$1,015,000 were made (Becker, 1882, 21; Church, 1879, 1; Smith, 1943, 293; WPA, 1941, no. 5, 1).

In 1881 Myron Angel listed the **American Flat** and **Maryland** mines as minor producers located on American Flat. The **Tyler Mine** is situated above the northwest fringes of American Flat due west of the Baltimore Mine. The **Delaware Mine** is located to the west of American Flat at approximately 6,600 feet elevation on the northeast flank of McClellan Peak. In 1979 the **Arizona Utah Mine** was listed as an active gold-silver mine operating in the vicinity of American Flat (Angel, 1881, 616-17; Directory of Nevada Mine Operations Active During Calendar Year 1979, 57).

The American Flat Mills

Even though American Flat's mines have produced little, the area was the site of a massive mill operation in the 1920s, that of the United Comstock Merger Mill, and more recently the site of Houston International Minerals Corp.'s huge American Flat Mill. These two major mills will be described first, followed by a discussion of the area's smaller mills.

American Flat Mill: Houston's International Minerals Corp.'s Comstock Operation's office was located on American Flat, along with its mill and tailings pond. HIMCO began its Comstock precious metal mining activities in the late 1970s. The operations included the underground exploration of the New York Mine in lower Gold Hill and open pit mining of gold and silver at the Con Imperial Pit in upper Gold Hill, which were covered in Chapter 7. A large sodium-cyanide mill, which processed ore from all of HIMCO's Comstock Operations, is located on American Flat. The mill, which went into operation in the spring of 1980, dominates the north end of the flat. It used the sodium cyanide process in which water and cyanide function in a closed circuit, recycling both. In March 1982 the mill was in full operation; 113 were employed at its peak. Much of the company's mineral properties were located on American Flat. The mill, which was designed to be dismantled, cost HIMCO \$17,000,000 to construct. The United Mining Co. purchased the mill and other HIMCO properties for \$10,000,000. United had the mill up for sale in 1986 after its New Savage Mine stopped production in April 1985 (John S. Miller, HIMCO Nevada Operation's Public Affairs Manager, 1982, personal commun.; Reno Gazette-Journal, 1986, Jan. 18, 8B).

United Comstock Merger Mill: Extensive cyanide mill located on American Flat approximately 1 1/4 miles northwest of Silver City. In 1919 two Nevada engineers purchased several old mining properties in the Gold Hill vicinity and organized the United Comstock Mines Co. A second corporation owned by the same men, the Comstock Merger Mines Co., operated in Virginia City. These companies found millions of tons of low-grade ore and built the United Comstock Merger Mill to process it. Ground for the facility was broken in 1921, and the mill went into operation in 1922. At that time it was the largest cyanide mill in the western states, having a 2,000-ton-a-day capacity. It had an ore-receiving and

coarse-crushing unit, a fine-grinding and concentration unit, a cyanide and thickening division, a precipitation and refining unit, warehouse and storage yard, assaying and experimental unit, and repair shops. A settlement by the name of Comstock grew up close to the mill. Approximately 2,000,000 tons were treated with a recovery of only about \$4 per ton. Because of falling silver prices, the mill was abandoned in 1926. Alternate names include the American Flat Mill and the Consolidated Comstock Mill. Concrete walls and foundations remain at the site (Engineering & Mining Journal, 1922, vol. 114, Nov. 11, 846-53; Glass, 1975, 15-16; Stoddard, 1950, 27-28).

Bay State Mill: In 1865 this quartz mill was reported by the *Gold Hill News* to be located in American City, to have a main building measuring 50 x 100 feet, to possess 23 stamps, and to be the "finest in the State of its capacity." In the 1866 *State Mineralogist's Report* it was listed as having the same number of stamps and a 35-ton-per-day capacity. It was destroyed by fire in 1871 (GHN, 1865, June 27, 3:1; SMR, 1866, 148; TE, 1871, Feb. 22, 3:1).

Rigbys Mill: The Rigby brothers built this mill in 1862 at the head of American Ravine. Its main building was listed as measuring 24 x 54 feet in Kelly's 1863 directory. Collin's 1864-65 directory reported that it had 10 stamps and could crush 14 tons a day. In the 1866 *State Mineralogist's Report* it was listed as a steam mill using 4 cords of wood a day and having 10 stamps, 5 Varney pans, and a capacity of 12 tons a day. In 1870 the *Territorial Enterprise* reported that the mill was moved from American Flat to Six Mile House, which was situated below Spring Valley in northwest Lyon County (Collins, 1864-65, 250; Kelly, 1863, 314; SMR, 1866, 148; SCR, Locations, 1864, v.A, 359, sketch map; TE, 1870, Sept. 13, 3:1).

The **American Flat Mill** (not to be confused with the United Comstock Merger Mill or the Houston International Minerals Corp.'s or the United Mining Co.'s American Flat Mill) was erected on American Flat in 1861. Kelly's 1863 directory reported that it was a ten-stamp mill which could crush 10 tons a day. **Reed & Wades Mill** was built in 1861 near the future site of American City. In 1864 it had 8 stamps and an 8-ton-a-day capacity. It was destroyed by fire in 1864. The **McClelland & Davis** and **Smith & Nettleton** mills were shown on Bancroft's 1862 map as being located on American Flat. In 1862 Kelly listed the former as having a capacity of 30 tons a day and the latter as a 10-stamp mill with a 15-ton-a-day capacity. The **Johnson Mill** was shown on an 1864 Storey County Records sketch map as located on American Flat Road near Rigbys Mill. In 1872 the *Territorial Enterprise* wrote that the **Soderlinge Mill** had begun operations on American Flat. It had 2 stamps, an amalgamating pan, and a 10-ton-a-day capacity (Collins, 1864-65, 249, 340; GHN, 1864, Oct. 10, 3:1; Kelly, 1862, 174; 1863, 314; SCR, Locations, v.A, 1864, 359; TE, 1872, Mar. 12, 3:2).

Chapter 13

CARSON RIVER MILLS - EMPIRE AREA

Some of the largest mills of the Comstock were the water-powered ones that lined the Carson River from Empire to below Dayton. These mills are discussed in two chapters, one on the Empire-area mills, including all the Ormsby County-Carson River mills, and the other on the Dayton-area mills, including all the Lyon County-Carson River mills.

The Town of Empire

This former town site is located on the east bend of the Carson River about six miles southwest of Dayton. This one-time thriving lumber and quartz-milling center rose and fell with the fortunes of the Comstock mines. The lumber from its wood yards fed the mines of Virginia City and Gold Hill, and its quartz mills crushed wagon loads and, later, train loads of Comstock ore.

The town's history can be traced to the mid-1850s when Nicholas Ambrosia, better known as "Dutch Nick," operated a ranch and station at the point where the overland emigrant and stage road met at the Carson River. This station became known as "Dutch Nick's" or "Nick's Station." The town site was laid out in 1860, at which time it was christened Empire City. According to Cleator, the auspicious name was selected with the expectation that it would become a very large city.

In the early 1860s several quartz mills were built on the Carson River in and to the east of Empire City. The largest of these Ormsby County-Carson River mills were the Mexican (Spanish), Morgan (Yellow Jacket), Brunswick, Merrimac, Vivian, and Santiago. Some of these mills operated over a period of nearly 40 years.

Empire City became a station on the Virginia & Truckee Railroad when the section of the railroad between Virginia City and Carson City was completed in 1869. In the early 1870s the town had a population of 300-400 made up of laborers and their families from the neighboring quartz mills and wood yard. At that time there were two general stores, one of which was reported to be very large and well stocked; a dance hall; four saloons; and a beef market. The school had an enrollment of about 45. The town was the terminus of all floats of lumber and wood down the Carson River.

In the 1880s as activity on the Comstock waned, Empire City's population diminished. In 1895 its name was changed from Empire City to Empire. Its post office operated from January 1866-December 1912. In 1937 the Virginia & Truckee station house was removed from the town site. Today little remains of this once-bustling town except some mill ruins and a cemetery (Angel, 1881, 652-63; Cleator, 1913, 196; Harris, 1973, 22; Paher, 1970, 47-51; SMR, 1871-72, 117).

The Ormsby County-Carson River Mills

The canyon formed by the Carson River between the site of Empire and the town of Dayton now has returned pretty much to its natural state and is fairly quiet and deserted. Viewing it today makes it difficult to believe that less than a century ago it was lined by some of the largest reduction establishments on the Comstock, which filled the canyon with the thunderous noise of their operations. Some foundations and rubble remain at a few of the mill sites. Apparently a very destructive flood in 1907 destroyed many of the mills and their dams. Since then the elements and vandalism have taken their toll.

Mexican Mill: Large mill built in 1861 on the Mexican Ditch about 1/2 mile west of Empire City. Water to run the mill was obtained from the Mexican Dam on the Carson River approximately four miles to the south. The water was conveyed from the dam through the Mexican Ditch to the mill. Originally the mill was known as the Silver State Reduction

be the best dam on the Carson River. It was constructed of stone and cost about \$30,000. A 2,000-foot long ditch was constructed to carry water to the mill. The ditch was completed in 1861 and was 14 feet wide at the top, 10 feet wide at the bottom, and 3 feet deep. The mill was dismantled in the early 1890s, and in 1907 a flood destroyed the dam (Bancroft, 1862, map; Dangberg, 1975, 310-18; Kelly, 1863, 91; Nevada Historical Society, Carson City Sites Survey; SMR, 1866, 150; 1871-72, 117).

Copper Canyon Mill: Small quartz mill on the Carson River about one mile below the Merrimac Mill. It was constructed in 1862, was powered by water from a 600-foot ditch, and had 10 stamps with a 15-ton-a-day capacity. It cost approximately \$15,000, and its main building measured about 40 x 60 (Angel, 1881, 540; Nevada Historical Society, Carson City Sites Survey).

Blue Canyon Mill: Bancroft's 1862 map showed this mill to be located on the Carson River between the Merrimac and Vivian mills. Possibly it was the same as the Copper Canyon Mill (Bancroft, 1862, map).

Vivian Mill: This Carson River reduction facility was located on the river approximately two miles below the Merrimac Mill and a short distance below the Copper Canyon Mill. It was erected in the early 1860s and Kelly's 1863 directory reported it to have 16 stamps, 8 Wheeler pans, 3 agitators, a 25-ton-a-day capacity, and a very substantial stone dam. It was powered by water brought from the Carson River through a 1,100-foot long ditch and flume. In 1866 it was listed as being steam and water-powered, having 16 stamps and 8 Wheeler pans, and crushing 30 tons a day. In the early 1870s it was reported to have the same number of stamps and pans as in 1866, and to possess 7 settlers and a 40-ton capacity. The mill is reported to have operated until the 1890s (Angel, 1881, 540; Bancroft, 1862, map; Comp, 1980; Dangberg, 1975, 318-21; Kelly, 1863, 91-92; SMR, 1866, 150; 1871-72, 117).

Santiago Mill: Medium-sized mill located on the Carson River between the Vivian and Eureka mills approximately three miles east of Empire City. It was earlier known as the Stewart & Hennings Mill and the Zephyr Flat Mill. It was built in the early 1860s by William M. Stewart, well-known Virginia City mining lawyer later to become United States Senator from Nevada; John Henning; James Morgan; and C. F. Wood. In 1863 it was described as having one of the largest water wheels in the Territory, being 7 feet in diameter and weighing 7,000 pounds. At that time its main building was 60 x 160 feet; and it had 16 stamps, a 30-ton capacity, and employed 16 men. Kelly called it "one of the most complete and well-constructed establishments in the country." In the early 1870s it was reported to have 34 stamps, 9 pans, 18 settlers, and a capacity of 80 tons. It was still operating in the 1880s (Comp, 1980; Kelly, 1863, 92; Marsh, 1972, 689; Nevada Historical Society, 1966, 8; Nevada State Journal, 1960, Aug. 14, 30:1; SMR, 1866, 150; 1871-72, 117).

Chapter 14

CARSON RIVER MILLS - DAYTON VICINITY

The Town of Dayton

This Carson River town is located in western Lyon County on U.S. Highway 50 approximately nine miles northeast of Carson City and about eight miles southeast of Virginia City. Unlike the other Comstock towns discussed earlier, with the exception of Empire City, Dayton did not possess any Comstock mines but instead, because of its position on the Carson River, was an important Comstock quartz milling center.

As early as 1849 a tent trading post was erected in the vicinity of modern-day Dayton to serve immigrants and miners. Sometime in the early 1850s a permanent structure was built and by 1856-59 a number of Chinese had settled in the area. At that time the hamlet was appropriately known as Chinatown and continued to be known by that name until 1861 when there was an abortive attempt to call the settlement Nevada City. After the discovery of the Comstock, Chinatown was almost deserted; even wood houses were dismantled and moved to Virginia City and Gold Hill, leaving the town reduced to five or six houses. In 1860 a company, composed mostly of Carson City residents, proceeded to lay out a town called Mineral Rapids on the river immediately below Dayton, but the proposed town never prospered.

By the fall of 1860 mill construction on the Carson River was on the increase, giving new life to Chinatown. The town was named Dayton in 1861. The name honors John Day, a surveyor who was passing through and agreed to plot the town on the condition that it be named for him. Day was elected Surveyor General of Nevada in the late 1860s and early 1870s. Also in 1861, Dayton became the county seat of Lyon County. Carson River milling boomed, and in the mid-1860s the town's population peaked at about 2,500. In 1865 Dayton was reported to have 7 hotels, 5 saloons, 3 grocery stores, 1 brewery, 3 lumber yards, 5 carpenters, a military company numbering about 84, and a school house. After 1865 until the early 1870s there was a recession in Comstock mining, causing Dayton's population to decrease. During the height of milling in the early 1870s Dayton and vicinity were reported to have 11 mills with a total of 185 stamps. At that time the town's population was about 1,500. Dayton's next decline began in 1878 along with the rest of the Comstock. In 1880 its population was about 200. The coming of the Carson & Colorado Railroad in the early 1880s did not stimulate the town until the early 1900s when there was increased mining activity in southern Nevada, causing Dayton's population to grow to approximately 700. In 1909 fire destroyed the courthouse, and two years later the county seat was moved to Yerington.

Modern Dayton is a small picturesque residential community with several historic buildings remaining. Dayton township's population increased from 1,470 in 1970 to 3,315 in 1980 (Angel, 1881, 494-500; Carlson, 1974, 93; Kelly, 1862, 213-15; Paher, 1970, 69; SMR, 1871-72, 98-100).

The Lyon County-Carson River Mills

Eureka Mill: One of the largest mills on the river, this facility was located about one mile below the Santiago Mill and approximately three miles above Dayton. Kelly's 1862 directory described it as having a dam 125 feet wide and a main building 75 x 80, which was erected in 1861. At that time it had 20 stamps, 4 arastras, 25 employees, and a 30-ton-a-day capacity. The *Gold Hill News* reported in 1865 that it was a water-powered mill with 20 stamps, 10 pans, a 20-ton capacity, and 11 employees and was milling ore from the Yellow Jacket Mine in Gold Hill. Apparently the mill was taken over by the Union Mill & Mining Co., of which William Sharon was president, in 1871 and was rebuilt as the New Eureka Mill. In 1871 the *Territorial Enterprise* reported that the Union Mill Co. was building a large

dam, flume, and mill near the site of the old Eureka Mill. The dam was described as 200 feet in length, constructed of timbers 14 inches square, and 24 feet 8 inches high. The flume was to be 4,200 feet long. The mill was to measure 120 x 180 feet and 75 feet high and to have 60 stamps with a 180 to 200-ton capacity. The *Territorial Enterprise* went on to say that "it is intended that the mill shall be not only the largest but the best in the world -- the model mill of the universe." Its estimated cost was \$200,000. In 1875 the *Territorial Enterprise* wrote that it was the largest and finest mill in the state and that it was reducing 32 carloads of Belcher Mine ore a day. Grace Dangberg reports that the mill was destroyed by fire in the early 1890s. Later the Eureka Cyanide Plant was built near the site (Comp, 1980; Dangberg, 1975, 328-38, photos; GHN, 1865, June 5, 3:2; Kelly, 1862, 216; SMR, 1871-72, 100; TE 1871, Aug. 19, 3:1; 1875, Jan. 10, 3:2; Wheeler, 1876-77, map).

San Francisco Mill: Small Carson River reduction facility located west of Dayton between the Eureka and Franklin mills. Kelly's 1862 directory showed that it had a main building measuring 50 x 69 feet, 20 stamps, a 20-ton capacity, and 10 employees. In 1865 it was both water and steam-powered, used 1 cord of wood a day, had 10 stamps and 3 pans, employed 10, and processed 14 tons of ore a day from the Yellow Jacket Mine in Gold Hill. In the 1869-70 *State Mineralogist's Report*, it was listed as having 10 stamps and 8 pans (Bancroft, 1862, map; GHN, 1865, June 5, 3:2; Kelly, 1862, 216; SMR, 1869-70, 15).

Franklin Mill: Small Carson River mill located on the north bank of the river approximately two miles above Dayton at a point nearly opposite the Daney Mine. In Kelly's 1862 directory this establishment was described as having a 30 x 60-foot main building, a stone dam 20 feet wide at the bottom and 10 feet wide at the top, 10 stamps, 2 arastras, and a crushing capacity of 20 tons a day. At that time it employed 15 and was running on ore from the Daney Mine; the cost of the dam, road and mill was approximately \$60,000. In 1865 it was reported to be running on both water and steam, to use one cord of wood per week, to have 10 stamps and 9 tubs and pans, to employ 10 men, and to be reducing 12 tons of Yellow Jacket ore per day. In 1868 it was owned by the Bank of California, which was controlled by William Sharon, and in the early 1870s it was listed as having 20 stamps and a 40-ton capacity (GHN, 1865, June 5, 3:2; Kelly, 1862, 216-17; SMR, 1871-72, 100; TE, 1868, Jan. 21, 1:2; Wheeler, 1876-77, map).

Island Mill: Another small Carson River mill which was located a short distance below the Franklin Mill. In 1865 it was reported to be water-powered, to have 10 stamps and 11 tubs and pans, to use 3 cords of wood per week, and to be reducing 19 tons of ore per day from the Savage Mine in Virginia City. In 1868 it was listed as being owned by the Bank of California, which was controlled by William Sharon. The 1871-72 *State Mineralogist's Report* showed it to have 20 stamps and a 20-ton capacity but to be idle (GHN, 1865, June 5, 3:2; SMR, 1871-72, 100; TE, 1868, Jan. 21, 1:2).

Barton & Co.'s Mill: Tiny mill shown on Bancroft's 1862 map as located on the east bank of the Carson River above Dayton between the Franklin and Sprouls mills. Kelly's 1862 directory listed J.N. Barton, John Barton, J.R. Brett, and Levi Hite as owners. At that time it had 4 arastras with an 8-ton-a-day capacity and employed 7 men; it was processing ore from the proprietors' Gold Hill claim (Bancroft, 1862, map; Kelly, 1862, 217-18).

Hastings & Woodworth Mill: This mill had the distinction of being the first water-powered mill to be built on the Comstock. Both it and the Logan & Holmes Mill in Chinatown (Dayton) were reported to have started up in the fall of 1859; the Logan & Holmes Mill was run by horses. This mill was located on the river approximately 1 1/2 miles above Chinatown (Dayton) on the same site which was later occupied by the Carson River Quartz Mill (Kelly, 1862, 218).

Carson River Quartz Mill: Kelly's 1862 directory reported this mill to be located above Dayton on the Carson River at a site known as Camp Woodworth. The mill's proprietors were Joseph Woodworth, William M. Stewart and John D. Winters. At that time it had 10 stamps, 4 large arastras, and 10 employees and was crushing ore at a rate of 20 tons a day from the proprietors' claim in Gold Hill, known as the Henderson claim. Kelly went on to say that with its several out buildings, the mill give the appearance of being a hamlet. One of the first mills on the Comstock, the Hastings & Woodworth Mill, was earlier located on the same site. Later the New Ophir Mill was built on the same site (Comp, 1980; Kelly, 1862, 218).

Ophir Mills: Two mills which were situated on the Carson River above Dayton and below the Island Mill. In 1865 the New Ophir Mill was listed as being owned by the Ophir Mining Co. of Virginia City, as having 24 stamps and 15 pans, burning 4 cords of wood per week, employing 15 men, and reducing 35 tons of Yellow Jacket ore a day. It was built on the site of the Carson River Quartz Mill. In 1866 it was listed as being powered by steam and water, as using 2 1/2 cords of wood a day, and as having the same number of stamps and pans and same capacity as in 1865. The 1875 map of the survey of the Virginia & El Dorado Railroad shows an Old Ophir Mill located above the New Ophir Mill. In 1868 the New Ophir Mill was owned by William Sharon's Bank of California. It operated as a tailings mill from 1873-1883, at which time it was owned by Fair and Mackay (Comp, 1980; GHN, 1865, June 5, 3:2; Map of Survey of the Virginia & El Dorado Narrow Gauge Railroad, 1875; SMR, 1866, TE, 1868, Jan. 21, 1:2).

Woodworth Mill: Shown on Wheeler's 1876-77 map as situated on the northwest bank of the Carson River approximately one mile above Dayton. The 1869-70 *State Mineralogist's Report* reported it to be a 24-stamp mill with 12 pans, and in the early 1870s it was listed as having the same number of stamps and a 48-ton capacity (SMR, 1869-70, 15; 1871-72, 100; Wheeler, 1876-77, map).

Sprouls Mill: Small Carson River mill which was located above Dayton between the Barton & Co. and Carson River Quartz mills. In Kelly's 1862 directory it was listed as Sproul & Co.'s Excelsior Mill and reported to have 10 stamps and 20 Hungarian pans, to employ 15 men, and to process ore from the proprietors' Gold Hill claim. The proprietors were J.R. Sproul, C.C. Goodwin, Levi Hite, and J.R. Brett. The mill and dam cost approximately \$5,000 (Bancroft, 1862, map; Kelly, 1862, 218).

Birdsall & Carpenter Mill: Dayton mill reported in 1865 to have 20 stamps and 10 pans, to burn 1 cord of wood a day, to reduce 30 tons a day, and to employ 10 men. In the 1866 *State Mineralogist's Report* it was listed as a water-powered mill using 2 cords of wood a day and having 30 stamps, 20 Wheeler pans, and a capacity of 55 tons a day. In the 1869-70 *State Mineralogist's Report* it was reported to have 30 stamps and 40 pans, and in the early 1870s it had been converted to a tailings mill with a capacity of 300 tons per day. The buildings were torn down in the early 1900s (Comp, 1980; GHN, 1865, June 5, 3:2; SMR, 1866, 149; 1869-70, 14; 1871-72, 100).

Sutro Mill: When Adolph Sutro, later of Sutro Tunnel fame, first settled on the Comstock, he operated this mill, which was located slightly below Dayton between the Solomon Davis and Old Dayton mills. It was erected in 1861 and was one of the early mills in the area. Kelly's 1862 directory reported it to have 10 stamps and a 12-ton-a-day capacity and to employ 10 men. At that time it was processing ore from the Gould & Curry Mine in Virginia City. The mill burned in 1863, and it was rumored that the fire had been deliberately set in order to collect the insurance. An account in the *Territorial Enterprise* in 1874 relates that Sutro never was indicted for arson in Lyon County even though there was a Grand Jury investigation at the time. One man died in the fire, and the property was

heavily insured, causing people to speculate that the fire was not accidental. The *Territorial Enterprise* went on to say, "Nor can we believe with our correspondent that the evidence of incendiarism before the Grand Jury was strong enough to have warranted the finding of a bill. Justice to Mr. Sutro compels to say that we do not believe him to be capable of any such act, no matter what may have been charged at the time" (Bancroft, 1862, map; Kelly, 1862, 219; TE, 1874, May 14, 2:1).

Dayton Mills: There were two Dayton Mills, the Old Dayton Mill and the New Dayton Mill, located in Dayton. Kelly's 1862 directory reported the (Old) Dayton Mill to be located between the Sutro and Mineral Rapids mills at the lower end of Dayton. At that time it had 15 stamps with a 15-ton-a-day capacity and employed 6 men. In 1865 it was reported to be water-powered, burning 1 cord of wood per week, and running 20 stamps and 6 pans. The New Dayton Mill was listed in 1865 as a 15-stamp, steam mill consuming 5-1/2 cords of wood a day, having 8 pans for amalgamation, and processing 22 tons of ore a day from the Winters Mine. In the 1866 *State Mineralogist's Report* the Dayton Mill No. 1 (Old Dayton Mill) was listed as having the same number of stamps and pans as in 1865 and as having a 20-ton capacity. The Dayton Mill No. 2 was listed as possessing the same number of stamps as in 1865 but as having a 15-ton capacity (GHN, 1865, June 5, 3:1; Kelly, 1862, 219-20; SMR, 1866, 149).

The following small mills were reported to be located in Dayton. The *Gold Hill News* in 1864 wrote of a Jackson & Hunts Mill, which had 5 new Helson pans. The article went on to say that "this mill has made itself famous for the large yield of ore reduced in it." In 1865 the *Gold Hill News* reported that Sweetapples Mill was a water and steam-powered facility with 12 stamps reducing ore from the Gold Hill and Savage mines. The listing of the Kustel & Winters Mill on Bancroft's 1862 map was the only information found on this mill; it appears to have been owned by John D. Winters, Joseph D. Winters and G. Kustel. Wheeler's 1876-77 map showed a Lyon Mill located on the west bank of the Carson River in Dayton; no additional information was found on this mill. In 1868 the *Territorial Enterprise* reported the Mosheimer Mill to be a 15-stamp, steam mill. In the same article the *Territorial Enterprise* wrote that the Reservoir Mill was a steam mill with 5 pans; in the early 1870s it was listed as a tailings mill with a 50-ton-a-day capacity. According to Myron Angel, the Solomon Davis Mill was assembled in 1861 after being moved from California. Because it was capable only of processing free gold, it was unsuccessful and was moved to Como in Lyon County and later to the Kearsage District. Kelly's 1862 directory listed Keller & Co.'s Mill as having a 60 x 70-foot main building, 15 stamps, 4 arastras, a 20-ton capacity, and 8 employees. Its proprietors were Joseph Keller and Issac Cohen, and Bancroft's 1862 map showed it located between the Kustel & Winters and Solomon Davis mills. The same directory listed the Solomon & Jacobs Mill as located below Keller & Co.'s Mill; it was described as a steam mill with 10 arastras and 10 employees (Angel, 1881, 502; Bancroft, 1862, map; GHN, 1864, May 25, 3:2; 1865, Apr. 4, 3:1; Kelly, 1862, 219; SMR, 1871-72, 100; TE, 1868, Jan. 21, 1:2; Wheeler, 1876-77, map).

Logan & Holmes Mill: Some reports credit this tiny mill with being the first to be erected on the Comstock. Kelly credits the Hastings & Woodworth Mill, covered earlier in this chapter, as being the first. Apparently both the Logan & Holmes and Hastings & Woodworth mills started up in the fall of 1859. The Coover & Harris and Pioneer mills, the first steam mills on the Comstock, went into operation almost a year later. Messrs. Logan and Holmes built their mill on a flat about 1/4 mile south of Dayton. It was a 4-stamp mill driven by horses and was reported to be an experimental mill for testing Gold Hill ore. It was replaced by a water-powered mill (the Aurora Mill) the following summer (Angel, 1881, 503; Kelly, 1862, 214, 218-19).

Works; it was also called the Spanish Quartz Mill. In 1863 it had the largest water wheel on the Pacific coast, furnishing almost 200 horsepower and 44 stamps. Kelly wrote that its capacity was 70-75 tons "being more than double the amount crushed by any other mill in the Territory." At that time it was processing ore from the Mexican Mine in Virginia City and other mines. Its crushing and amalgamating plant was contained in a building 90 x 186 feet. The total length of the entire mill was approximately 450 feet. In the 1866 *State Mineralogist's Report* it was listed as having 44 stamps, 12 Hepburn pans, and a 75-ton capacity. In the early 1870s it had 44 stamps, 20 pans, 10 settlers, and a 120-ton capacity. It was reported still to be operating in the 1880s. Today the Mexican Dam and Ditch are still intact and are being used for irrigation. The mill site contains extensive ruins, and the mill office and superintendent's home are well-preserved (Apple Tree, 1975, Dec. 14, 2; Carlson, 1974, 166; Comp, 1980; Kelly, 1863, 88-91; Ormsby County Land Records, 1864, v. 7, 124; SMR, 1866, 150; 1871-72, 117).

Meads Mill: Empire City quartz mill built in 1861 between the Mexican Mill and the Carson River. It was described as having 16 stamps, 10 stone pans, a main building 46 x 56 feet, a capacity of 20 tons per day, and 12 employees; it cost approximately \$25,000 and was powered by water from the Mexican Ditch. According to Dodson, it was built by W. H. Mead and was later known as the Yellow Jacket Mill (Angel, 1881, 540; Dangberg, 1975, 297; Dodson, 1928; Lawson, 1861, manuscript map).

Baldwin & Co.'s Mill: Kelly's 1863 directory reported this to be a 16-stamp mill located in Empire City. It had a 25 horsepower engine, 20 pans in the amalgamating department, and 14 employees. Joseph Baldwin Jr. was the mill's superintendent (Kelly, 1863, 91).

Morgan Mill: Sizeable mill located on the north bank of the Carson River about 1/8 mile east of Empire City. It was constructed in the mid-1860s to reduce ore from the Yellow Jacket Mine in Gold Hill and was earlier known as the Yellow Jacket Mill. In the 1866 *State Mineralogist's Report* it was listed as a steam and water-powered mill with 40 stamps, 9 Varney and 30 Hepburn pans, and a capacity of 80 tons a day. In the early 1870s it was reported to be a steam mill with 40 stamps, 13 pans, 6 settlers, and a 75-ton capacity. It was reported to be operating as a tailings mill in the early 1880s and still to be operating in the late 1880s (Comp, 1980; Dangberg, 1975, 295; SMR, 1866, 150; 1871-72, 117; TE, 1871, July 27, 3:1; Wheeler, 1876-77, map).

Brunswick Mill: Large reduction establishment located on the north bank of the Carson River approximately one mile east of Empire City. It was one of the major mills on the Carson River and was constructed in 1864. In 1866 it was described as a water-powered mill with 8 stamps, 4 Knox and 1 Varney pans, and a 20-ton-a-day capacity. In the early 1870s it had 56 stamps, 26 pans, 13 settlers, and a capacity of 150 tons a day. In 1875 its ownership was transferred to the Pacific Mill & Mining Co., which was controlled by the Bonanza Firm of Mackay, Fair, Flood, and O'Brien, to process ore from the Consolidated Virginia Mine in Virginia City. The mill was reported to still be operating in the late 1880s. Extensive stone foundations remain at the site (Comp, 1980; Dangberg, 1975, 300-09; SMR, 1866, 150; 1871-72, 117; TE, 1875, Oct. 1, 3:2; Wheeler, 1876-77, map).

Merrimac Mill: Was located on the Carson River approximately 1/2 mile below the Brunswick Mill and about two miles below Empire City. It was also known as the Bryant, Ellsworth, & Co. Mill. In Kelly's 1863 directory it was reported to have a main building measuring 70 x 100 and one of the most substantial dams on the Carson River. It employed 17 persons, ran 16 stamps and 18 pans, crushed 30 tons of rock a day, and cost about \$50,000. In the 1866 *State Mineralogist's Report* it was listed as water-powered with 20 stamps, 15 Wheeler pans, and a 40-ton capacity. In the early 1870s it was reported to have 20 stamps, 13 pans, 6 settlers, and a 45-ton capacity. The Merrimac Dam was reported to

Chapter 16

MILLS WITH UNDETERMINED LOCATIONS

The following Comstock mills cannot be assigned precise enough geographic locations to be included in any of the preceding chapters. The 1866 *State Mineralogist's Report* listed the Atwood and Simcoe mills as being located in Storey County. The **Atwood Mill** was described as a 16-stamp steam mill burning 4 1/2 cords of wood a day and having 26 Knox and 2 Wheeler pans and a 20-ton capacity. The **Simcoe Mill** was reported to be a 16-stamp mill using 5 cords of wood a day and having 8 pans and a 25-ton capacity.

Apparently the following mills were located in Lyon County either near Silver City or Dayton. In 1865 the *Gold Hill News* listed the Atlantic, Cole & Co. and Stead & Hunt mills as being located in Lyon County. The **Atlantic Mill** was listed as a water-powered facility, having 2 arastras, a 3-ton capacity, and 2 employees, which was reducing ore from the Gray & Cook Mine. The **Cole & Co. Mill** was reported in 1865 to be water-powered with 5 stamps, 4 pans, 5 employees, and a 3-ton capacity; it was burning 1 1/2 cords of wood per week and was running on ore from the Imperial Mine in Gold Hill. The 1866 *State Mineralogist's Report* listed the same number of stamps, pans and capacity for this mill, but apparently it had converted to steam and was using 3 cords of wood per day. In 1865 the **Stead & Hunt Mill** was owned by a Mr. Stead and J.B. Hunt. At that time it was a 15-stamp steam mill burning 5 cords of wood a day and having 5 pans, a 22-ton capacity, and 11 employees and was running on ore from the Yellow Jacket Mine in Gold Hill. In 1864-65 the Collin's directory listed the **Eagle Mill** as being a 3-stamp, 2-pan, water-powered mill under construction. The 1866 *State Mineralogist's Report* listed it as a water-powered reduction facility having 5 stamps, 2 Knox pans, and a capacity of 15 tons. The same report listed the **New York & Nevada Mill** and **D.L. Smith Mill** as located in Lyon County. The **New York & Nevada Mill** was described as a steam mill using 5 1/2 cords of wood a day and having 20 stamps, 17 Hepburn pans, and a capacity of 25 tons. The **D.L. Smith Mill** was water-powered with 5 stamps, 4 pans, and a 4-ton capacity.

In 1866 the *Territorial Enterprise* mentioned a **Rules Mill** which was processing ore from the Chollar-Potosi Mine in Virginia City. The *Gold Hill News* in 1864 wrote of a **Darst & Harris Mill** which was receiving some ore from the Caledonia Mine in Gold Hill (Collins, 1864-65, 318; GHN, 1864, Jan. 13, 3:1; 1865, June 5, 3:2; SMR, 1866, 148-49; TE, 1866, Oct. 6, 3:1).

in 1861, Washoe City was the largest town in the county and became the county seat. The first court house quarters were rented, but plans were soon made to build a court house and jail; they were completed by the end of 1863.

By the mid-1860s Washoe City had a floating population of approximately 6,000 with less than half as many permanent residents. At that time there were eight quartz mills in the area with a total of 181 stamps. Lumbering and milling started to decline as early as 1863 because of the difficult passage over Ophir Grade to Virginia City, which could be impassable for two to three months in the winter. It was easier for the Comstock to obtain its lumber from the timber that was floated down the Carson River and also more convenient to have ore reduced at the Carson River mills or on the Comstock. The completion in 1869 of the Virginia & Truckee Railroad from Virginia City to Empire City and Carson City was a serious blow to Washoe City. The loss of the county seat to Reno in 1871 was the death knell for the town. In 1880 its population had dwindled to about 200, and its post office closed in 1894. Now nothing remains of this once-prosperous town except a few crumbling foundations.

The camp of Ophir City was located about 1/4 mile east of U.S. Highway 395 at a point approximately 20 miles south of Reno and about two miles south of Washoe City. The settlement grew up around the Ophir Mill and had about 300 residents in 1862-63. In addition to ore milling, Ophir City thrived due to extensive shipping of cordwood. The town's businesses included saloons, a post office which opened in 1861, lawyers' offices, and wagon and blacksmith shops. The decline of the Ophir Mill in the mid-1860s spelled the end of the town. In 1871 only about 41 voters were left, and the post office was removed that same year. The mill was dismantled in 1872 (Angel, 1881, 625-27; Paher, 1970, 43; SMR, 1866, 150).

Ophir Grade

This was the name given to the early toll road that provided the vital link between Virginia City and Washoe Valley. Galloway described it as follows:

"After passing the Divide between Virginia City and Gold Hill, the Ophir Grade skirted the southern flanks of Mt. Davidson and descended 1,200 feet to Washoe Lake, where the swampy ground at the north end of the lake was crossed by a timber trestle about a mile long. Ore was transported by the teams down the grade and lumber and wood taken on the return trip."

The road was built in 1861 by the Ophir Mining Co. to connect its mine in Virginia City with its Ophir Mill in Washoe Valley and was known for a short time as the Washoe City-Virginia City Toll Road. Today the major portion of the route remains intact as a roughly graded dirt road. The road was continuous from Virginia City to Washoe Lake until 1979 when a slide occurred at Houston International Minerals Corp.'s Con Imperial Pit in Gold Hill, resulting in the destruction of the road at that point (Comp, 1980; Galloway, 1947, 35).

Washoe Valley Mills

The Ophir Mill, which was the valley's largest, will be discussed first, followed by a description of the Washoe City mills and outlying mills.

"OLD" Ophir Mill: In the early 1860s this was the largest quartz mill on the Comstock. It was located at Ophir City, and according to Kelly's 1863 directory its buildings covered approximately three acres. The mill and adjoining buildings were built by the Ophir Mining Co. of Virginia City to process ores from its lucrative Ophir Mine. Early accounts agree that the facility was constructed without any regard for expense. Some structures were cut out of granite, and the total cost was approximately \$500,000. The mill was fairly

successful as long as the ores from the Ophir Mine averaged as much as \$150 per ton. Kelly's 1862 directory reported that the mill employed 100 and had 36 stamps with a 100-ton-a-day capacity. At that time a railroad was being planned to connect the Ophir Mine with the mill; the railroad was never completed. In Kelly's 1863 directory the mill was described as having a 100 horsepower engine, 140 employees, 64 stamps, and only a 40-ton capacity. The Ophir Co. owned sections of woodland and approximately 700 acres of valley land adjacent to the mill. In the 1866 *State Mineralogist's Report* it was listed as having 72 stamps, 24 Freiburg barrels, and a 50-ton capacity. The Ophir Mine exhausted its rich ore in the mid-1860s, and the mill closed in 1866. Now only a few crumbling walls remain in a field along U.S. Highway 395 (Kelly, 1862, 100-01; Kelly, 1863, 130-31; Smith, 1943, 80-81; SMR, 1866, 150).

Atchison Mill: Large quartz mill built in Washoe City in 1861 and remodelled the next year. In Kelly's 1863 directory it was described as having a main building measuring 60 x 120 feet, 16 stamps, and a 25-ton-a-day capacity. It was driven by water from Browns and Steamboat creeks to the north through a ditch and flume about 3 1/2 miles in length. At that time the amalgamating department had 10 Wheeler pans, 4 Wakely pans, and 8 agitators; and the mill employed 15 hands. In 1865 it was reported to be both steam and water-powered with 16 stamps, 16 Wheeler pans, and 8 settlers. At that time it was running on Chollar-Potosi ore. In 1866 the Savage Mining Co. purchased the facility for \$50,000 to be paid in ten monthly installments of \$5,000 each with no interest. Ratay wrote that in 1871, after being idle for two years, the mill was overhauled and put back into operation (GHN, 1865, May 9, 3:1; Kelly, 1863, 132; Ratay, 1973, 410; SMR, 1866, 150; TE, 1866, Aug. 8, 4:2).

Other Washoe City mills included the Buckeye, Manhattan, Minnesota, New York, and Norths mills. In the 1866 *State Mineralogist's Report* the Buckeye Mill was listed as having 10 stamps, 8 Wheeler pans, and a 25-ton capacity. The same 1866 report listed the Manhattan Mill as being located in Allen Canyon north of Washoe City and as being water-powered with 24 stamps, 16 pans, and a 30-ton capacity. In 1868 the *Territorial Enterprise* wrote that the mill had been purchased by the Union Mill & Mining Co., a Bank of California affiliate. The Minnesota Mill was listed in the 1866 *State Mineralogist's Report* as having 16 stamps, 12 Wheeler pans, and a 25-ton capacity. Ratay noted that in the early 1870s it was being run by the Savage Mining Co. as a tailings mill. In 1866 the New York Mill was reported to be a steam mill with 24 stamps, 16 Varney pans, and a capacity of 50 tons a day; the *Territorial Enterprise* in 1868 reported that it had been bought by the Union Mill & Mining Co. Bancroft's 1862 map shows a Norths Mill located in Washoe City (Bancroft, 1862, map; Ratay, 1973, 410, foldout map between p. 448-49; SMR, 1866, 150; TE, 1868, June 7, 2:4).

Three other mills were located nearby. In 1866 the *Territorial Enterprise* wrote that the Napa Mill was located in Washoe Valley, had a 16-ton capacity, and was the only mill being supplied by the Ophir Mine. The 1866 *State Mineralogist's Report* reported the mill to be located in Galena and to have a 25-ton capacity. Ratay reported it to be both water and steam-powered.

The Temelic Mill was located one valley to the north of Washoe Valley at the lower end of Pleasant Valley. In 1863 Kelly reported it to have a 60 x 72-foot main building, a large water wheel 30 feet in diameter, 15 stamps, 8 Wheeler pans, and a 20-ton capacity. In 1865 the *Gold Hill News* reported it to be milling ore from the Savage Mine in Virginia City and the Burke & Hamilton Mine in Gold Hill. In the 1866 *State Mineralogist's Report* it was listed as having 15 stamps, 12 Wheeler pans, and a 25-ton capacity. The *Territorial Enterprise* in 1872 wrote that it had been idle for two years and was destroyed by arsonists.

Kelly reported in 1863 that the Washoe Valley Reduction Works was located on the west side of Washoe Valley in Franktown. At that time it was water-powered with 30 stamps and ranked next to the Ophir Mill in capacity (GHN, 1865, Jan. 4, 3:1; Kelly, 1863, 132; Ratay, 1973, 410; SMR, 1866, 150; TE, 1872, Feb. 22, 3:2).

Succor Mill: This mill originally stood approximately 1 1/2 miles below Dayton between the Gautiers and Frothinghams mills. When winter flooding changed the river's channel in the early 1860s, the mill's frame was moved to Gold Canyon about 1/2 mile northwest of Devils Gate where it continued to operate under the same name (see Chapter 11 for additional information) (Bancroft, 1862, map; Kelly, 1863, 313).

Frothingham & Co.'s Mill: Small mill located on the river approximately four miles below Dayton. In 1862 it had 3 stamps, 4 arastras, and an 8-ton capacity (Bancroft, 1862, map; Kelly, 1862, 222).

Desert Mill: Small tailings mill which was situated on the Carson River about 4 miles below Dayton. In the 1871-72 *State Mineralogist's Report* it was listed as having a 25-ton-a-day capacity. In 1873 it was reported to be processing 30 tons of tailings a day (SMR, 1871-72, 100; TE, 1873, Apr. 2, 3:1).

Carson Valley Mill: Large tailings mill located on the Carson River about 5 miles below Dayton near Sixmile Canyon. The 1869-70 *State Mineralogist's Report* listed it as having 20 stamps and 10 pans. In 1871 the *Territorial Enterprise* reported that a tailings mill was being erected on the site with a 60 x 150-foot main building, 10 Parke pans, and a 500-ton-a-day capacity (SMR, 1869-70, 14; 1871-72, 100; TE, 1871, June 8, 3:1).

Lindauer & Co. Mill: Reported in 1865 to be water-powered, to have 15 stamps and 10 pans, to burn one cord of wood per week, to employ 9 men, and to crush 20 tons a day from the Gold Hill Consolidated Mine. At that time Lindauer, Hirshman, and Sweetapple were proprietors. It was also known as the Lindauer & Hirshman Mill. In 1866 the *Territorial Enterprise* reported it to be operating exclusively as a tailings mill, getting much of its supply of tailings from the Rock Point Mill. The 1866 *State Mineralogist's Report* showed the mill to be dismantled. No exact location was given for this mill (GHN, 1865, June 5, 3:2; SMR, 1866, 149; TE, 1866, Aug. 22, 1:4).

Hurds Mill: Reported by the *Territorial Enterprise* in 1868 to be located on the Carson River south of Dayton, to be owned by Hurd, Ball & Co., to be water-powered, and to have 20 stamps and 8 pans; no exact location was given (TE, 1868, Jan. 21, 1:2).

Aurora Mill: Reported in 1862 to be owned by J. Mosheimer, John D. Winters, Joseph D. Winters, and G. Kustel and to be located 1/4 mile south of Dayton. At that time it had 38 stamps, 40 employees, and a 40-ton capacity; it was driven by 2 turbine wheels of 30 horsepower each. Earlier the Logan & Holmes Mill occupied the same site (Kelly, 1862, 218-19).

Mineral Rapids Mill: Small mill located on the Carson River below Dayton between the Dayton and Rock Point mills. In 1862 it was reported to have a 40 horsepower steam engine, 10 stamps, and 4 arastras; to work both gold and silver; and to reduce 20 tons in 24 hours. In 1865 it had 10 stamps and 14 pans, burned 3 cords of wood a day, and employed 13. It was named for the settlement of Mineral Rapids, which was laid out in 1860 on the river immediately below Chinatown (Dayton) but never thrived (Bancroft, 1862, map; GHN, 1865, June 5, 3:2; Kelly, 1862, 220).

Illinois Mill: Was located on the Carson River above the Rock Point Mill and about 1/4 mile below Dayton. In 1865 it was listed as a steam mill with 20 stamps and 5 pans, using 5 cords of wood a day, employing 14 men, and crushing 18 tons a day from the Yellow Jacket Mine in Gold Hill. In 1868 it was reported to be owned by the Bank of California, which was controlled by William Sharon. The 1869-70 *State Mineralogist's Report* listed it as a 20-stamp and 6-pan mill (GHN, 1865, June 5, 3:2; SMR, 1869-70, 15; TE, 1868, Jan. 21, 1:2).

Rock Point Mill: A Dayton State Park historical marker points out the ruins of this major mill on the west side of U.S. Highway 50 on the outskirts of Dayton. The mill was located below Dayton between the Mineral Rapids and Freeborn & Sheldon mills. In 1862 Kelly described it as "one of the most extensive establishments in the country," having a 90 x 100-foot main building, a 100 horsepower engine, 42 stamps, and a dam and race that cost approximately \$10,000. At that time 30 men were employed; the mill's reduction capacity was 50 tons a day; and it was processing ore from the Logan & Holmes Mine in Gold Hill. In 1865 it was reported to be owned by the Imperial Mining & Mill Co. In the 1866 *State Mineralogist's Report* it was listed as being steam and water-powered, burning 2 1/2 cords of wood per day, having 56 stamps and 50 pans, and crushing 56 tons a day. In the early 1870s it had 56 stamps and a 112-ton capacity but was not operating. According to the Dayton State Park historical marker at the site, the mill was destroyed by fire in 1882 and was rebuilt in 1883. Again in 1909 it was destroyed by fire and was rebuilt in 1912 by the Nevada Mining, Reduction & Power Co. with an aerial tramway carrying ore from the Haywood Mine near Silver City. A few years later the tramway was abandoned (Bancroft, 1862, map; GHN, 1865, June 5, 3:1; Kelly, 1862, 220-21; Smith, 1932, 13; SMR, 1866, 148; 1871-72, 100).

Freeborn & Sheldons Mill: Carson River mill located below Dayton between the Rock Point and Gautiers mills; it was originally known as Shaws Mill. Shaws Mill never became operative because the Rock Point Co. claimed and succeeded in holding the water with which the Shaw Co. expected to operate its mill. In 1862 Freeborn & Sheldons Mill was described as having a main building 75 feet square, a turbine wheel 5 feet in diameter and weighing 5,000 pounds, 24 stamps, and a 30-ton capacity; as employing 15, and as having cost approximately \$40,000 (Angel, 1881, 503; Bancroft, 1862, map; Kelly, 1862, 221).

Gautiers Mill: Early reduction facility shown on Bancroft's map as located on the east side of the Carson River below Dayton between the Freeborn & Sheldon and Succor mills. Kelly's 1862 directory reported it to have 10 stamps and a 15-ton capacity and to employ 8 (Bancroft, 1862, map; Kelly, 1862, 221).